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FLOOD INSURANCE STUDY



ORIGINAL

**CITY OF LONGVIEW,
TEXAS
GREGG AND
HARRISON COUNTIES**



JUNE 3, 1986



Federal Emergency Management Agency

COMMUNITY NUMBER - 480264

2A

NOTICE TO
FLOOD INSURANCE STUDY USERS

This Flood Insurance Study was revised on June 3, 1986. Users should refer to the Revision Description section (Section 9.0) of this text for further information.

Part or all of this Flood Insurance Study may be revised at any time. The user is therefore cautioned that a published map revision (i.e., a revised Flood Insurance Rate Map) may not include a reprinting of the text, tables, and/or profiles, resulting in a discrepancy between the revised map and the original study components. It is the responsibility of the user to consult with community officials to obtain the most current Flood Insurance Study components.

Initial Flood Insurance Study Effective Date: December 15, 1977

Flood Insurance Study Revised: June 3, 1986

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EXHIBITS

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PUBLISHED SEPARATELY:

Flood Insurance Rate Map Index

Flood Insurance Rate Map

FLOOD INSURANCE STUDY
CITY OF LONGVIEW, TEXAS

1.0 INTRODUCTION

1.1 Purpose of Study

The purpose of this Flood Insurance Study is to investigate the existence and severity of flood hazards in the City of Longview, Gregg and Harrison Counties, Texas, and to aid in the administration of the Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973. Initial use of this information will be to convert the City of Longview to the regular program of flood insurance by the Federal Insurance Administration (FIA). Further use of the information will be made by local and regional planners in their efforts to promote sound land use and flood plain development.

1.2 Coordination

A search for basic data was made at all levels of government. The United States Department of Agriculture, Soil Conservation Service (SCS) provided Gregg County surface soils information. The City of Longview was valuable in furnishing flood history information, city planning reports, and detailed topographic maps. Hart Engineering Co., Inc. was contacted since they had been contracted for past and proposed drainage improvements within the city. Stream profiles were coordinated with information provided by the Texas State Department of Highways and Public Transportation.

Further coordination for this study included meeting with city officials on March 18, 1975, and July 18, 1975, for the purpose of data collection. A meeting was held with city officials on December 12, 1975, to discuss study procedures. A final Consultation and Coordination meeting to review the draft of this report was held with city officials on June 23, 1976, resulting in three map amendments.

1.3 Acknowledgements

The source of authority for this Flood Insurance Study is the National Flood Insurance Act of 1968, as amended.

The hydrologic and hydraulic analyses for this study were done by the Black and Veatch for the FIA, under Contract No. H-3814.

This work, which was completed in May 1976, covered all flooding sources in Longview.

2.0 AREA STUDIED

2.1 Scope of Study

This flood study covers the area within the corporate limits of the City of Longview, Texas. The watersheds studied were chosen with consideration given to all proposed development for the next five years (through April 1981). The entire study area is shown on the Vicinity Map (Figure 1).

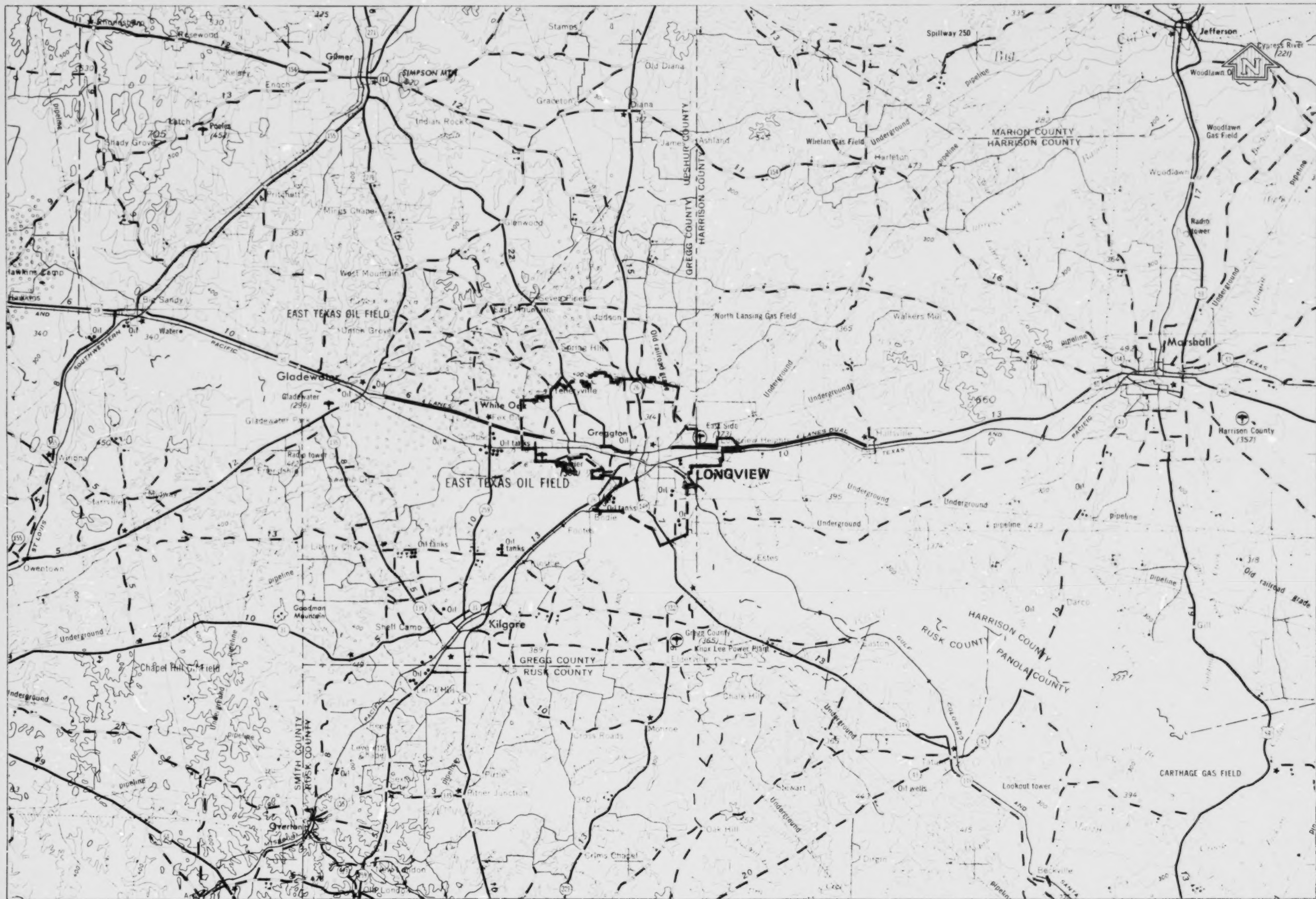
Areas to be studied in detail were agreed upon at the initial coordination meeting. These included Grace Creek and its tributaries; Wade, Creek, Guthrie Creek, Harris Creek, Ray Creek, School Branch Creek, Oakland Creek, Johnston Creek, Coushatta Hills Creek, Gilmer Creek and Drains Numbers 2, 3, and 4; Eastman Lake Creek, Drain Number 1, Iron Bridge Creek and Lafamo Creek. At the final meeting the community asked that Peterson Court Creek be delineated on the maps and that approximate study methods were adequate. The final draft of this report reflects this revision. Also various small unnamed streams shown on the Special Flood Hazard Boundary Map are studied by approximate methods.

2.2 Community Description

The City of Longview, located in the east central region of Gregg County with a small part extending into Harrison County, is in the northeastern corner of Texas. It is about 120 miles east of Dallas.

Major transportation routes through the city include Interstate Highway 20, U. S. Highways 259 and 80 and State Highway 140. The city is also served by the Missouri Pacific Railroad, the Texas & Pacific Railroad, and the Gulf, Colorado & Santa Fe Railroad. Longview was incorporated in 1871 and became the county seat of Gregg County in 1873. The population of Longview was 45,547 persons in 1970 and is projected to be 58,000 persons in 1990 (Reference 1).

The climate for the Longview area is temperate with annual temperature variations from 1° F to 107° F. The mean daily temperature ranges between a low of 36.7° F in January to a high of 94.6° F in August. The average annual rainfall is 46.70 inches with November to April the wetter months and August to October usually the driest (Reference 2).



APPROXIMATE SCALE



VICINITY MAP

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
Federal Insurance Administration

CITY OF LONGVIEW, TX
(GREGG AND HARRISON COS.)

FIGURE 1

Longview, which is located in the upper reaches of the Sabine River Basin, has a topography characterized by gently rolling hills with numerous small streams. Grace Creek is oriented in a north-south direction with flow to the south through the center of the city. Lafamo Creek drains a small portion of the western section of the city, Iron Bridge Creek drains the southeastern section, and Eastman Lake Creek drains the far eastern section.

More than 165 industries and businesses are located in Longview. Present industry includes the manufacturing of aircraft components, metal cans, castings, mobile homes, oil well tools, load binders, beer, industrial machinery, truck seals, chemicals, plastics, food products, truck beds, camping trailers, boats, apparel, and metal buildings (Reference 3).

Little commercial or industrial development is located in the flood plains although residential development is present along several of the streams.

2.3 Principal Flood Problems

The Grace Creek Watershed is the principal area of flooding in Longview. During the record flood of April 1966, an estimated \$2,000,000 damage was done to roads in Gregg County. Several culverts were washed out and some water mains were broken. Both the Texas & Pacific and the Missouri Pacific Railroads suffered damage to bridges over Grace Creek by flood waters. At least 12 lives were lost in the East Texas area and five in Longview, due to drowning or storm caused accidents. Personal property damage occurred to several houses with one house on Walnut Street being totally destroyed (Reference 4). Figures 2 and 3 show partial damage as a result of this flood.

2.4 Flood Protection Measures

Efforts have been made to clean and enlarge the creeks within Longview to reduce flooding. Channel and bridge improvements have been designed and constructed for some portions of the streams in Longview. No other flood control measures are presently in effect or planned.

3.0 ENGINEERING METHODS

For flooding sources studied in detail in the community, standard hydrologic and hydraulic study methods were used to determine the flood hazard



Figure 2

The flood left this damage at the Goodwin Chevrolet Company parking lot near Grace's Creek.



Figure 3

Heavy rains caused this damage to Hollybrook Drive Sunday morning (April 24, 1966)

data required for this study. Floods having recurrence intervals of 10, 50, 100, and 500 years have been selected as having special significance for flood plain management and for flood insurance premium rates. The analyses reported here reflect current conditions in the drainage areas of the streams.

3.1 Hydrologic Analyses

Hydrologic analyses were carried out to establish the peak discharge-frequency relationships for floods of the selected recurrence intervals for each stream studied in detail in the community.

Peak discharges for floods of 10-, 50-, and 100-year recurrence intervals were computed using National Weather Service rainfall frequency-duration data (Reference 5) and the rainfall-runoff relationships developed by the USGA - SCS (Reference 6). These computations included consideration of the percentage of watershed developed, percentage of watershed under reservoir control, soil classifications, length of overland flow, and other pertinent basin characteristics as determined from published documents (References 1, 6, 7, 8, 9, and 10) and field reconnaissance.

Discharges for the 500-year flood were determined by straight-line extrapolation of log-probability graphs of flood discharges computed for frequencies up to 100-years for only those streams undergoing backwater analyses.

Discharges were computed for interior watershed locations by the ratio-of-areas technique when considered necessary for enhancing the degree of definition for backwater calculations.

Frequency-discharge, drainage area curves for the streams studied in detail are shown in Figure 4.

3.2 Hydraulic Analyses

Analyses of the hydraulic characteristics of the streams studied in detail in the community were carried out to provide estimates of the elevations of floods of the selected recurrence intervals along each of these streams.

Water-surface elevations of floods of the selected recurrence intervals were computed through use of the COE HEC-2 step-backwater computer program (Reference 11). Cross sections for the backwater analyses were field-surveyed. Additional cross section information

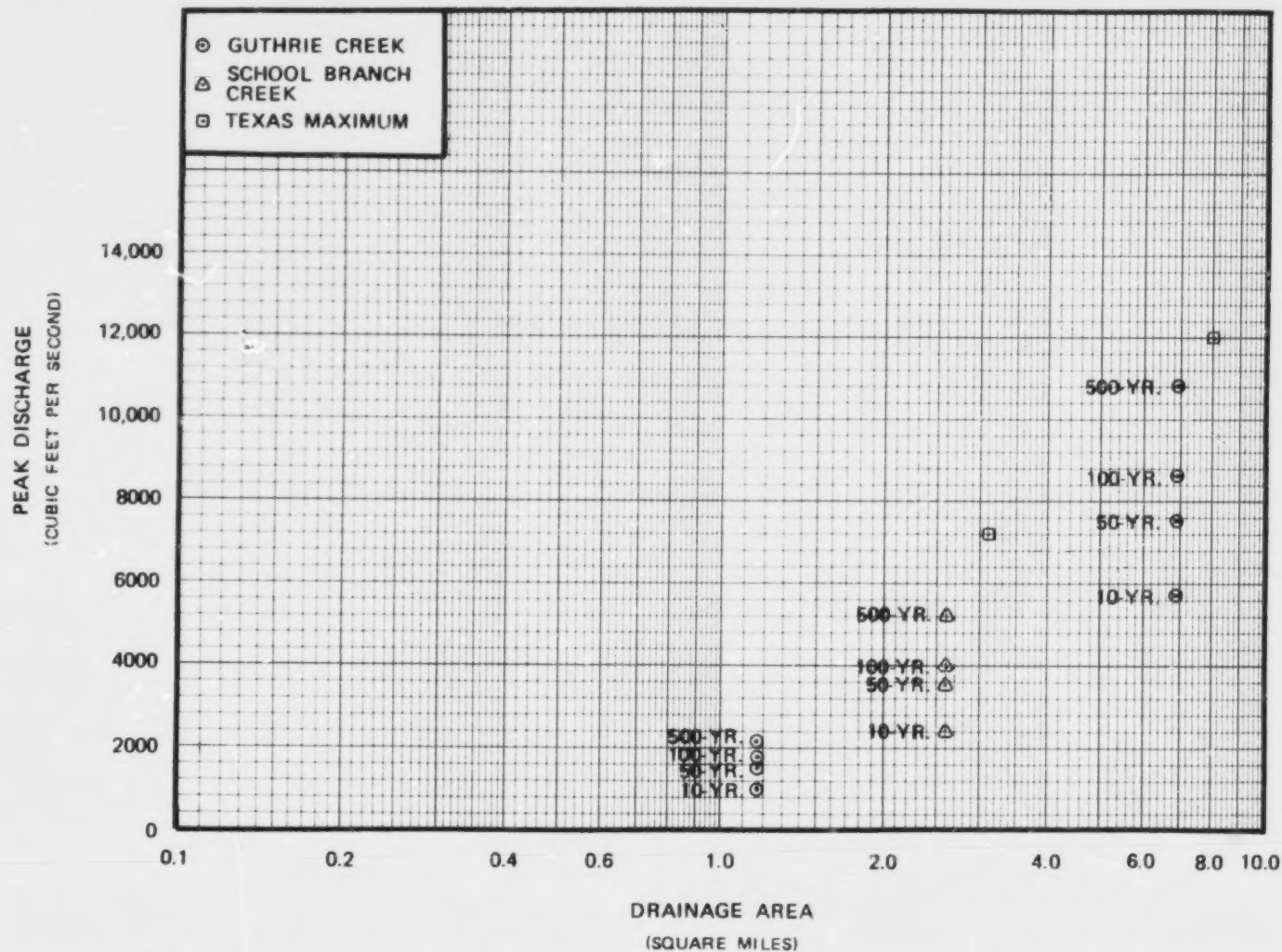


FIGURE 4

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
Federal Insurance Administration

CITY OF LONGVIEW, TX
(GREGG AND HARRISON COS.)

FREQUENCY-DISCHARGE, DRAINAGE AREA CURVES

GUTHRIE CREEK AND SCHOOL BRANCH CREEK

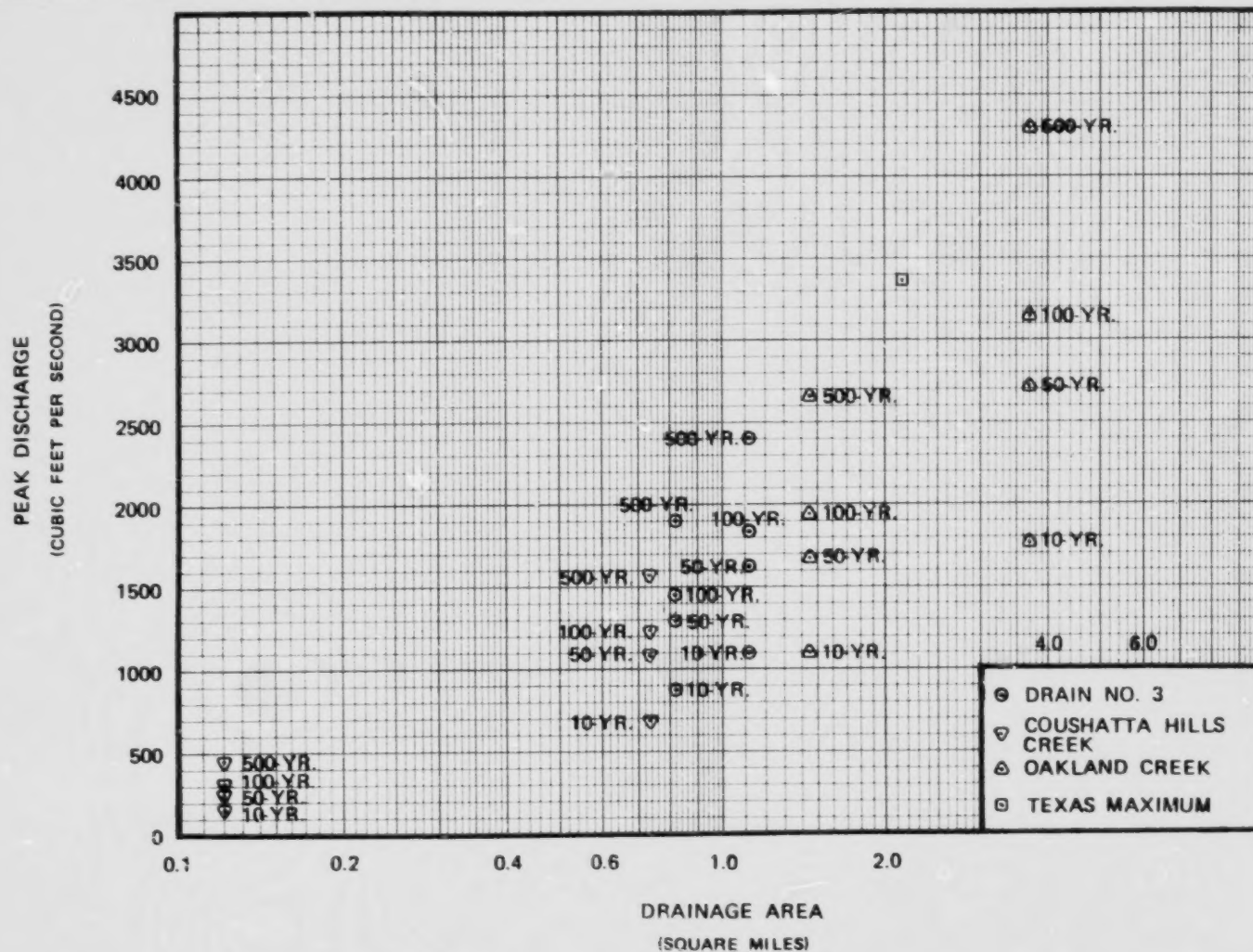


FIGURE 4

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
Federal Insurance Administration

CITY OF LONGVIEW, TX
(GREGG AND HARRISON COS.)

FREQUENCY-DISCHARGE, DRAINAGE AREA CURVES

DRAIN NO. 3, COUSHATTA HILLS CREEK AND OAKLAND CREEK

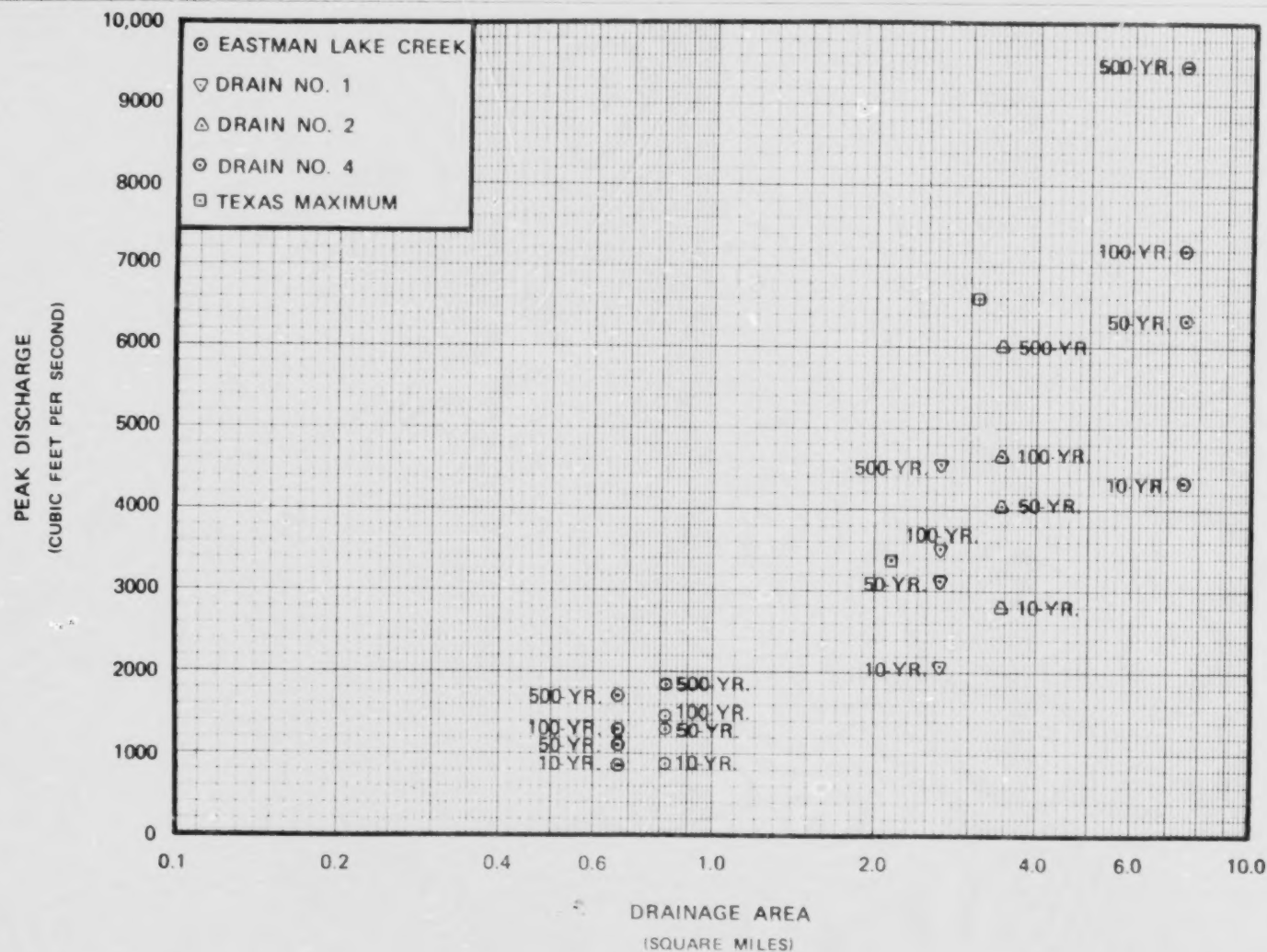


FIGURE 4

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
Federal Insurance Administration

CITY OF LONGVIEW, TX
(GREGG AND HARRISON COS.)

FREQUENCY-DISCHARGE, DRAINAGE AREA CURVES

EASTMAN LAKE CREEK, DRAIN NO. 1, DRAIN NO. 2 AND DRAIN NO. 4

9

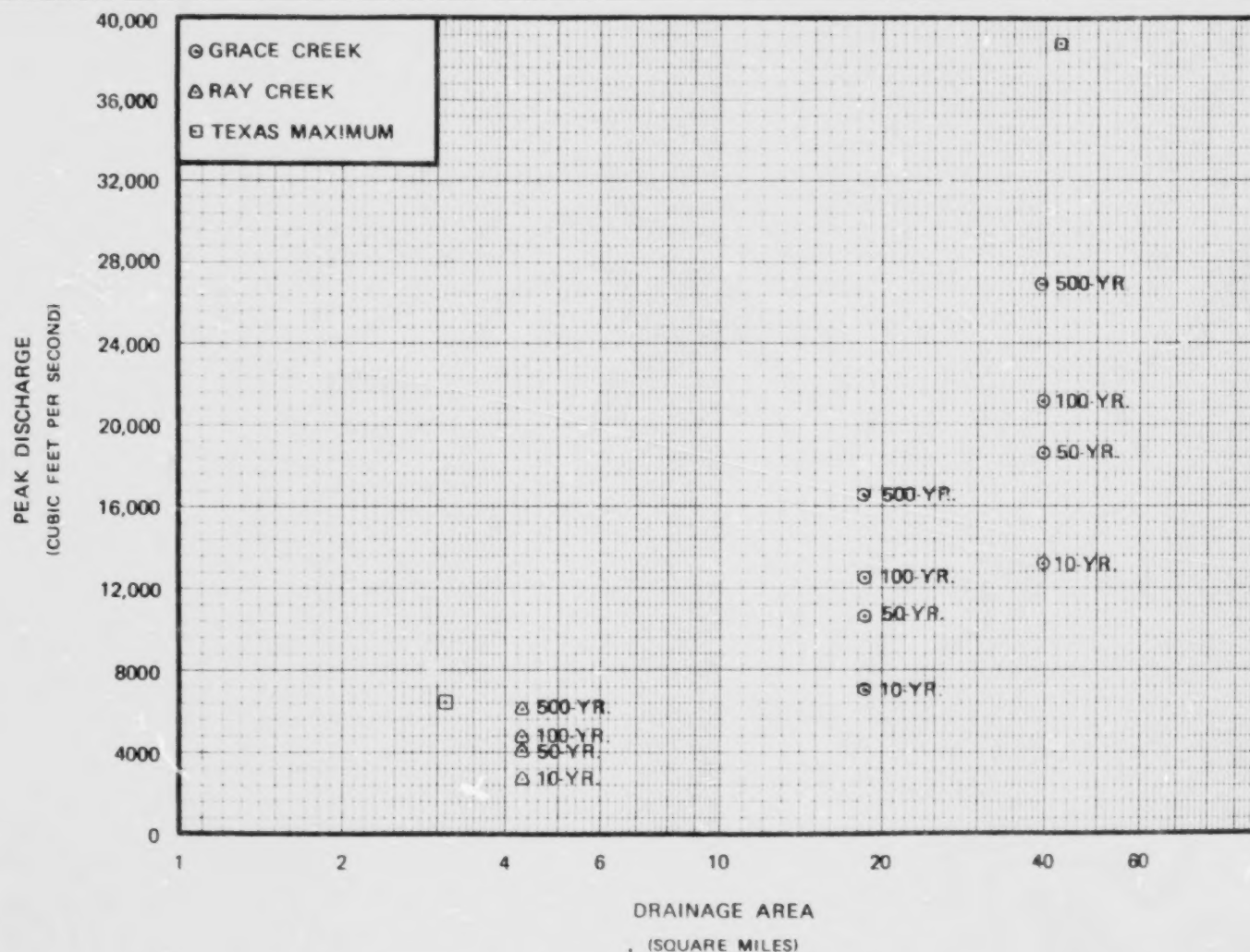


FIGURE 4

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
Federal Insurance Administration

CITY OF LONGVIEW, TX
(GREGG AND HARRISON COS.)

FREQUENCY-DISCHARGE, DRAINAGE AREA CURVES

GRACE CREEK AND RAY CREEK

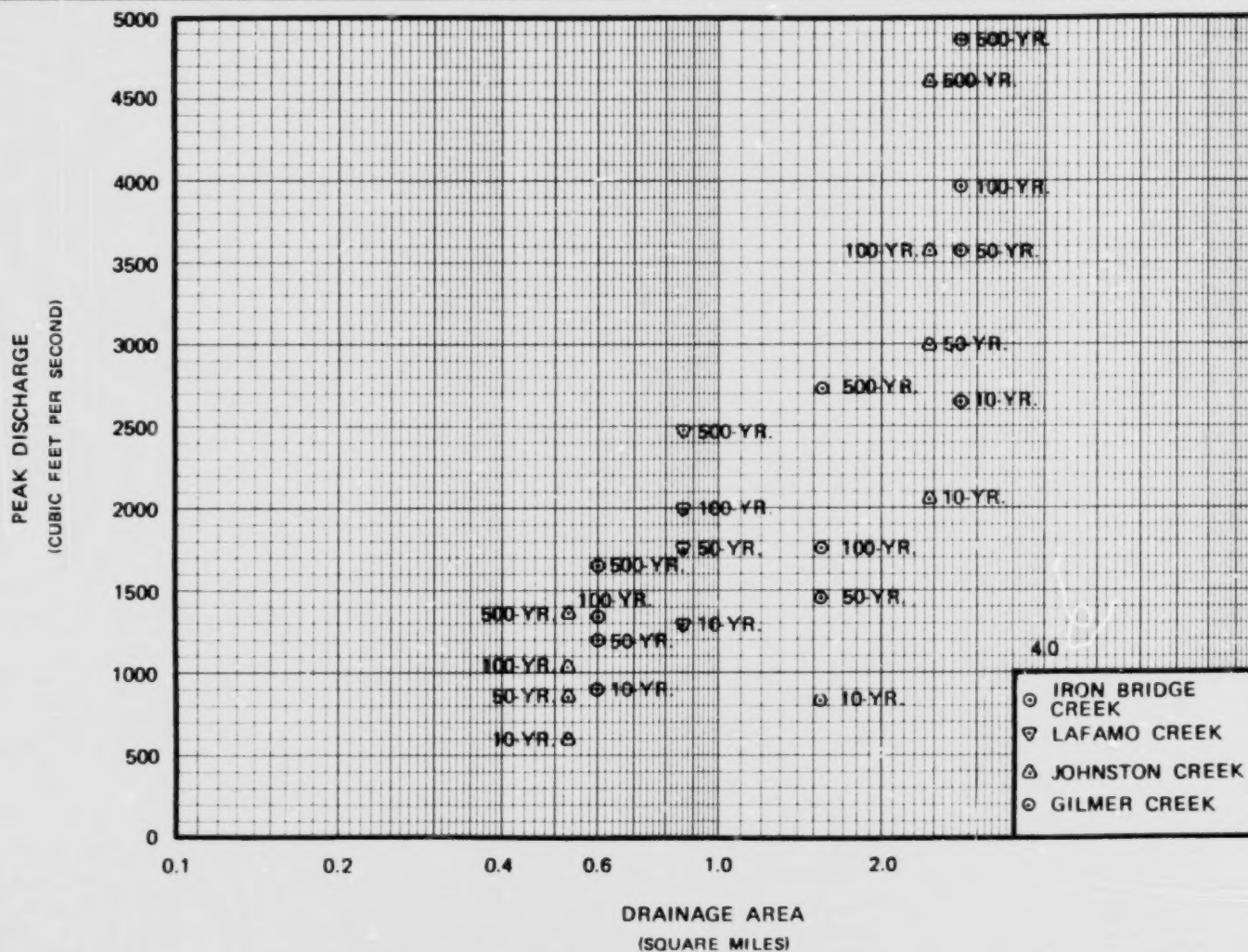


FIGURE 4

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
Federal Insurance Administration

CITY OF LONGVIEW, TX
(GREGG AND HARRISON COS.)

FREQUENCY-DISCHARGE, DRAINAGE AREA CURVES

**IRON BRIDGE CREEK, LAFAMO CREEK,
JOHNSTON CREEK AND GILMER CREEK**

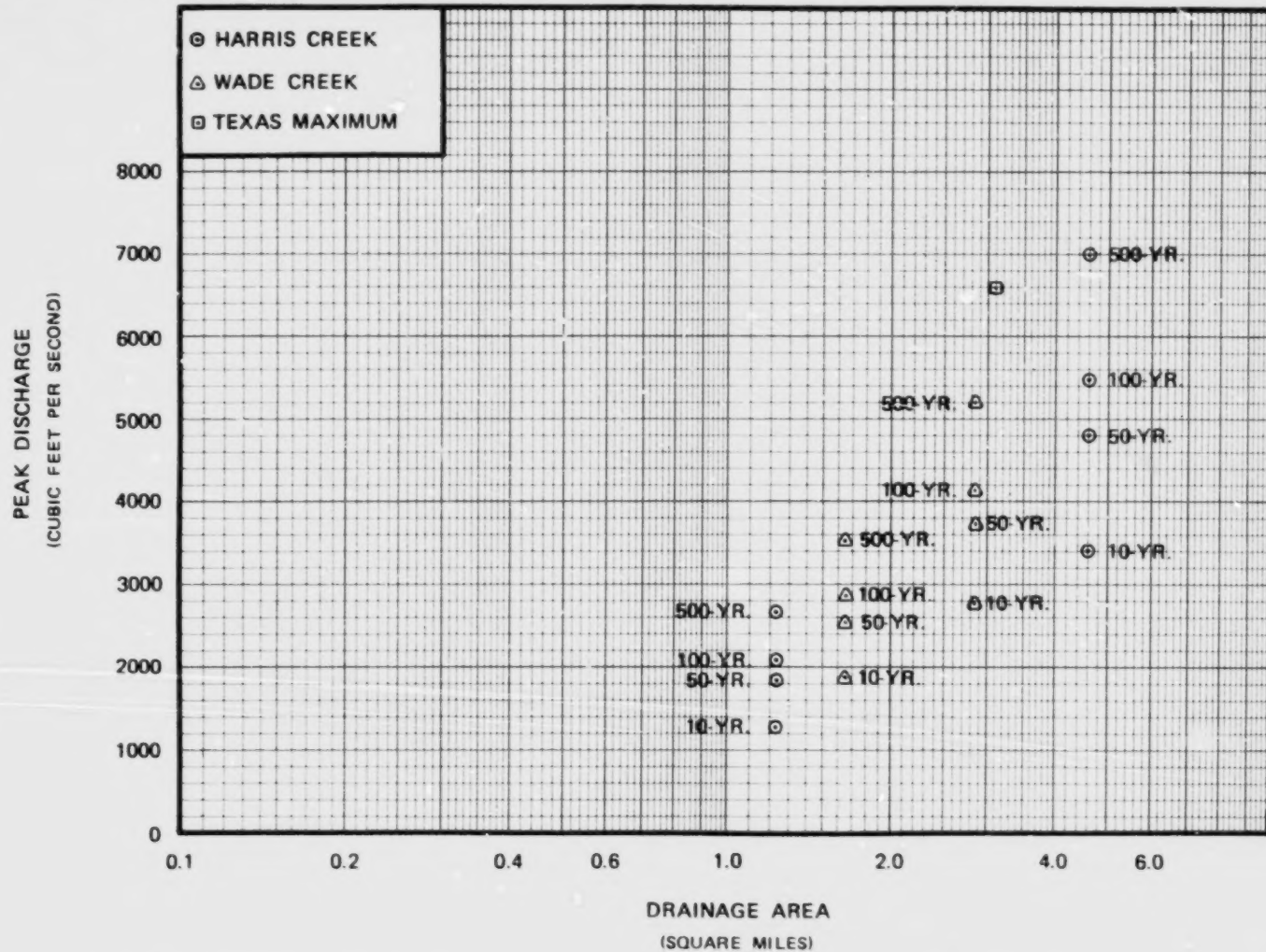


FIGURE 4

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
Federal Insurance Administration

CITY OF LONGVIEW, TX
(GREGG AND HARRISON COS.)

FREQUENCY-DISCHARGE, DRAINAGE AREA CURVES

HARRIS CREEK AND WADE CREEK

was obtained from drainage improvement plans supplied by Hart Engineering Co., Inc. and five-foot contour maps made available by the city. Cross sections were located at close intervals in the vicinity of bridges and culverts in order to compute the significant backwater effects of these structures in urbanized areas. Location of selected cross sections used in the hydraulic analyses are shown on the Flood Boundary and Floodway Map (Exhibit 3).

Channel roughness factors (Manning's "n") for these computations were assigned on the basis of field inspection of flood plain and channel areas. Values ranged from 0.035 to 0.10 for flood plains and 0.013 to 0.07 for channel areas.

Flood profiles were drawn showing computed water-surface elevations to an accuracy of 0.5 foot for floods of the selected recurrence intervals (Exhibit 1). Flood profiles for Harris Creek omit the 50-year recurrence interval because of the relative closeness between profiles. All other stream profiles present the 10-, 50-, 100-, and 500-year flood elevation levels. The starting water-surface elevations for Grace Creek, Lafamo Creek, Iron Bridge Creek, and Eastman Lake Creek were developed by the slope area method. Backwater elevations from these streams were used as starting elevations for their respective tributaries.

The flood profiles of this study reflect the accuracy of a 1:2,400 scale topographic map. However, transferring this scale to 1:12,000 scale work maps, derived from a USGS topographic map, resulted in the inability to show all the meandering evident on the 1:2,400 scale map. There exists, the possibility that some distances between sections will appear less on the work maps than what they are on the profiles. All elevations are referenced from the National Geodetic Vertical Datum of 1929 (NGVD 1929), formerly referred to as mean sea level with 1929 general adjustments; elevation references used in this study are shown on the maps. For Peterson Court Creek and various small unnamed streams in the community, which were studied by approximate methods, the extent of the 100-year flood was determined using the Special Flood Hazard Boundary Map for Longview (Reference 12).

The hydraulic analyses for this study are based only on the effects of unobstructed flow. The flood elevations as shown on the various profiles are, therefore, considered valid only if hydraulic structures in general remain unobstructed and if channel conditions and overbank conditions remain essentially the same as those ascertained during this study.

4.0 FLOOD PLAIN MANAGEMENT APPLICATIONS

A prime purpose of the National Flood Insurance Program is to encourage state and local governments to adopt sound flood plain management programs.

Each Flood Insurance Study, therefore, includes a flood boundary map designed to assist communities in developing sound flood plain management measures.

4.1 Flood Boundaries

In order to provide a national standard without regional discrimination, the 100-year flood has been adopted by FIA as the base flood for purposes of flood plain management measures. The 500-year flood is employed to indicate additional areas of flood risk in the community. For each stream studied in detail, the boundaries of the 100-year and the 500-year flood have been delineated using the flood elevations determined at each cross section; between cross sections, the boundaries were interpolated using topographic maps at a scale of 1:2,400 with a contour interval of five feet (Reference 7). In cases where the 100-year and the 500-year flood boundaries are close together, only the 100-year boundary has been shown.

For Peterson Court Creek, which was studied by approximate methods, the 100-year flood boundary was delineated using the Special Flood Hazard Boundary Map for Longview, Texas (Reference 12).

The boundaries of the 100- and 500-year floods are shown on the Flood Boundary and Floodway Map (Exhibit 3). Small areas within the flood boundaries may lie above the flood elevations, and therefore, not be subject to flooding; due to limitations of the map scale, such areas are not shown. Exact elevations can be determined by utilizing the elevation reference marks established in the community as part of this study.

4.2 Floodways

Encroachment on flood plains, such as artificial fill, reduces the flood-carrying capacity and increases flood heights, thus increasing flood hazards in areas beyond the encroachment itself. One aspect of flood plain management involves balancing the economic gain from flood plain development against the resulting increase in flood hazard. For purposes of the Flood Insurance Program, the concept of a floodway is used as a tool to assist local communities in this aspect of flood plain management. Under this concept, the area of the 100-year flood is divided into a floodway and floodway fringe. The floodway is the channel of a stream, plus any adjacent flood plain areas, that must be kept free of encroachment in order that the 100-year flood be carried without substantial increases in flood heights. Minimum standards of FIA limit such increases in flood

heights to one foot, provided that hazardous velocities are not produced. The floodways in this report are presented to local agencies as minimum standards that can be adopted or that can be used as a basis for additional studies.

A floodway generally is not appropriate in areas that may be inundated by flood waters from a lake. Thus, no floodways are shown for the streams in this study where flooding results from high levels of a lake rather than from high stream flow.

The results of these computations are tabulated at selected cross sections for each stream studied in detail (Table 1). On the Flood Boundary and Floodway Map (Exhibit 3), the floodway widths were determined at each cross section; between cross sections, the boundaries were interpolated. In cases where the floodway boundary and the 100-year flood boundary coincide, the floodway boundary is shown.

The area between the floodway and the boundary of the 100-year flood is termed the floodway fringe. The floodway fringe thus encompasses the portion of the flood plain that could be completely obstructed without increasing the water-surface elevation of the 100-year flood more than one foot at any point. Typical relationships between the floodway and the floodway fringe and their significance to flood plain development are shown on Figure 5.

5.0 INSURANCE APPLICATION

In order to establish actuarial insurance rates, FIA has developed a process to transform the data from the engineering study into flood insurance criteria. This process includes the determination of reaches, Flood Hazard Factors, and flood insurance zone designations for each flooding source affecting the City of Longview.

5.1 Reach Determinations

Reaches are defined as lengths of watercourses having relatively the same flood hazard, based on the average weighted difference in water-surface elevations between the 10- and 100-year floods. This difference does not have a variation greater than that indicated in the following table for more than 20 percent of the reach.

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FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION		
CROSS SECTION	DISTANCE	WIDTH (FT.)	SECTION AREA (SQ. FT.)	MEAN VELOCITY (F.P.S.)	WITH FLOODWAY (NGVD 1929)	WITHOUT FLOODWAY (NGVD 1929)	DIFFERENCE (FT.)
Eastman Lake Creek							
A	0.220 ¹	195	796	6.3	319.1	319.1	0.0
B	0.990 ¹	225	1,235	1.1	331.6	331.4	0.2
C	1.140 ¹	120	858	1.5	335.0	334.8	0.2
D	1.640 ¹	95	297	4.4	347.3	346.4	0.9
E	1.830 ¹	70	291	4.5	356.9	356.0	0.9
Drain No. 1							
A	508 ²	335	2,125	1.6	331.5	331.4	0.1
B	1,033 ²	320	2,108	1.6	336.0	336.0	0.0
Iron Bridge Creek							
A	0.818 ³	230	2,639	1.5	283.9	283.3	0.6
B	1.430 ³	80	267	11.1	285.4	285.4	0.0
C	1.920 ³	140	351	8.5	297.5	297.5	0.0
D	2.430 ³	130	324	5.8	309.3	308.9	0.4

¹MILES ABOVE COTTON STREET²FEET ABOVE CONFLUENCE WITH EASTMAN LAKE CREEK³MILES ABOVE SOUTH INDUSTRIAL DISTRICT, R.R. LOOP

TABLE 1

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
Federal Insurance AdministrationCITY OF LONGVIEW, TX
(GREGG AND HARRISON COS.)

FLOODWAY DATA

EASTMAN LAKE CREEK, DRAIN No. 1,
IRON BRIDGE CREEK AND GRACE CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION		
CROSS SECTION	DISTANCE	WIDTH (FT.)	SECTION AREA (SQ. FT.)	MEAN VELOCITY (F.P.S.)	WITH FLOODWAY (NGVD 1929)	WITHOUT FLOODWAY (NGVD 1929)	DIFFERENCE (FT.)
Iron Bridge Creek (Continued)							
E	2.730 ¹	110	434	3.1	318.0	317.2	0.8
F	3.104 ¹	90	337	4.0	329.7	329.7	0.0
Grace Creek							
A	2.400 ²	690	5,452	3.9	267.7	266.9	0.8
B	3.264 ²	570	4,988	3.9	268.8	268.0	0.8
C	3.950 ²	1,020	6,898	2.8	271.0	270.5	0.5
D	4.661 ²	840	7,601	2.6	279.9	279.1	0.8
E	5.291 ²	820	7,195	1.9	283.4	282.6	0.8
F	6.740 ²	460	3,148	4.0	288.9	288.2	0.7
G	7.590 ²	570	3,524	3.6	296.0	295.2	0.8
Wade Creek							
A	0.626 ³	85	716	5.8	269.0	268.3	0.7
B	1.110 ³	80	744	5.6	275.7	274.8	0.9
C	1.300 ³	55	264	12.7	278.2	277.9	0.3

¹MILES ABOVE SOUTH INDUSTRIAL DISTRICT, R.R. LOOP

²MILES ABOVE CONFLUENCE WITH SABINE RIVER

³MILES ABOVE CONFLUENCE WITH GRACE CREEK

TABLE 1

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
Federal Insurance Administration

CITY OF LONGVIEW, TX
(GREGG AND HARRISON COS.)

FLOODWAY DATA

IRON BRIDGE CREEK, GRACE CREEK AND WADE CREEK

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FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION		
CROSS SECTION	DISTANCE ¹	WIDTH (FT.)	SECTION AREA (SQ. FT.)	MEAN VELOCITY (F.P.S.)	WITH FLOODWAY (NGVD 1929)	WITHOUT FLOODWAY (NGVD 1929)	DIFFERENCE (FT.)
Wade Creek (Continued)							
D	1.742	95	380	8.9	291.5	290.7	0.8
E	2.051	120	323	8.8	303.4	303.1	0.3
F	2.456	115	462	4.7	315.4	314.6	0.8
G	2.884	260	1,150	1.9	332.1	331.1	1.0
H	3.054	50	361	2.9	347.2	347.2	0.0
Harris Creek							
A	0.360	560	4,513	1.2	282.0	281.1	0.9
B	1.511	270	1,436	3.8	303.1	302.2	0.9
C	2.008	105	674	6.4	308.5	308.3	0.2
D	2.310	225	1,034	4.2	315.5	315.0	0.5
E	3.007	210	1,213	2.5	337.2	337.1	0.1
F	3.745	120	370	5.6	355.6	355.2	0.4
G	4.053	80	207	6.9	364.5	364.0	0.5

¹MILES ABOVE CONFLUENCE WITH GRACE CREEK

TABLE 1

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
Federal Insurance AdministrationCITY OF LONGVIEW, TX
(GREGG AND HARRISON COS.)

FLOODWAY DATA

WADE CREEK AND HARRIS CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION		
CROSS SECTION	DISTANCE	WIDTH (FT.)	SECTION AREA (SQ. FT.)	MEAN VELOCITY (FT. S.)	WITH FLOODWAY (NGVD 1929)	WITHOUT FLOODWAY (NGVD 1929)	DIFFERENCE (FT.)
Drain No. 4							
A	0.070 ¹	200	1,044	1.4	325.1	325.0	0.1
B	0.572 ¹	80	295	4.3	342.2	341.7	0.5
C	0.996 ¹	85	239	2.7	364.6	364.4	0.2
Guthrie Creek							
A	0.024 ²	780	7,877	1.1	281.7	280.7	1.0
B	0.612 ²	460	4,530	1.9	287.0	286.8	0.2
C	1.472 ²	550	3,171	2.7	301.0	300.2	0.8
D	2.255 ²	35	218	8.1	323.6	322.7	0.9
Johnston Creek							
A	0.071 ³	460	3,468	0.6	305.9	304.9	1.0
B	1.098 ³	20	129	10.2	343.9	342.9	1.0
C	1.306 ³	75	292	3.4	349.5	348.5	1.0
D	1.598 ³	20	87	9.1	358.3	357.6	0.7
E	1.787 ³	20	45	7.5	364.3	363.5	0.8

¹MILES ABOVE CONFLUENCE WITH HARRIS CREEK²MILES ABOVE CONFLUENCE WITH GRACE CREEK³MILES ABOVE CONFLUENCE WITH GUTHRIE CREEK

TABLE 1

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
Federal Insurance AdministrationCITY OF LONGVIEW, TX
(GREGG AND HARRISON COS.)

FLOODWAY DATA

DRAIN No. 4, GUTHRIE CREEK AND JOHNSTON CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION		
CROSS SECTION	DISTANCE	WIDTH (FT.)	SECTION AREA (SQ. FT.)	MEAN VELOCITY (F.P.S.)	WITH FLOODWAY (NGVD 1929)	WITHOUT FLOODWAY (NGVD 1929)	DIFFERENCE (FT.)
Oakland Creek							
A	0.230 ¹	65	385	8.2	306.8	305.9	0.9
B	0.810 ¹	530	1,505	1.5	320.4	320.3	0.1
C	1.420 ¹	260	1,133	1.7	335.7	334.7	1.0
Coushatta Hills Creek							
A	1,246 ²	45	163	7.5	321.9	321.4	0.5
B	3,833 ²	25	128	6.2	344.1	344.1	0.0
C	6,310 ²	50	267	1.2	380.4	380.4	0.0
Gilmer Creek							
A	0.400 ³	140	357	4.6	292.6	291.8	0.8
B	0.600 ³	50	168	6.3	301.0	300.1	0.9
C	1.456 ³	150	490	2.0	336.3	335.7	0.6
Drain No. 2							
A	0.610 ³	320	1,165	4.0	304.9	303.9	1.0

¹MILES ABOVE CONFLUENCE WITH GUTHRIE CREEK²FEET ABOVE CONFLUENCE WITH OAKLAND CREEK³MILES ABOVE CONFLUENCE WITH GRACE CREEK

TABLE 1

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
Federal Insurance AdministrationCITY OF LONGVIEW, TX
(GREGG AND HARRISON COS.)

FLOODWAY DATA

OAKLAND CREEK, COUSHATTA HILLS CREEK,
GILMER CREEK AND DRAIN No. 2

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION		
CROSS SECTION	DISTANCE	WIDTH (FT.)	SECTION AREA (SQ. FT.)	MEAN VELOCITY (F.P.S.)	WITH FLOODWAY (NGVD 1929)	WITHOUT FLOODWAY (NGVD 1929)	DIFFERENCE (FT.)
School Branch Creek							
A	0.445 ¹	75	545	7.3	310.5	309.5	1.0
B	1.144 ¹	65	215	8.0	330.8	330.2	0.6
Drain No. 3							
A	0.350 ²	70	200	7.3	332.3	331.5	0.8
Ray Creek							
A	0.410 ¹	330	2,144	2.2	305.4	304.4	1.0
Lafamo Creek							
A	0.781 ³	145	438	7.3	313.2	312.5	0.7
B	1.145 ³	155	294	6.1	322.5	321.6	0.9
C	1.700 ³	90	241	4.3	354.8	353.8	1.0
D	1.990 ³	70	218	4.8	374.7	374.0	0.7

¹MILES ABOVE CONFLUENCE WITH GRACE CREEK

²MILES ABOVE CONFLUENCE WITH SCHOOL BRANCH CREEK

³MILES ABOVE CONFLUENCE WITH HAWKINS CREEK

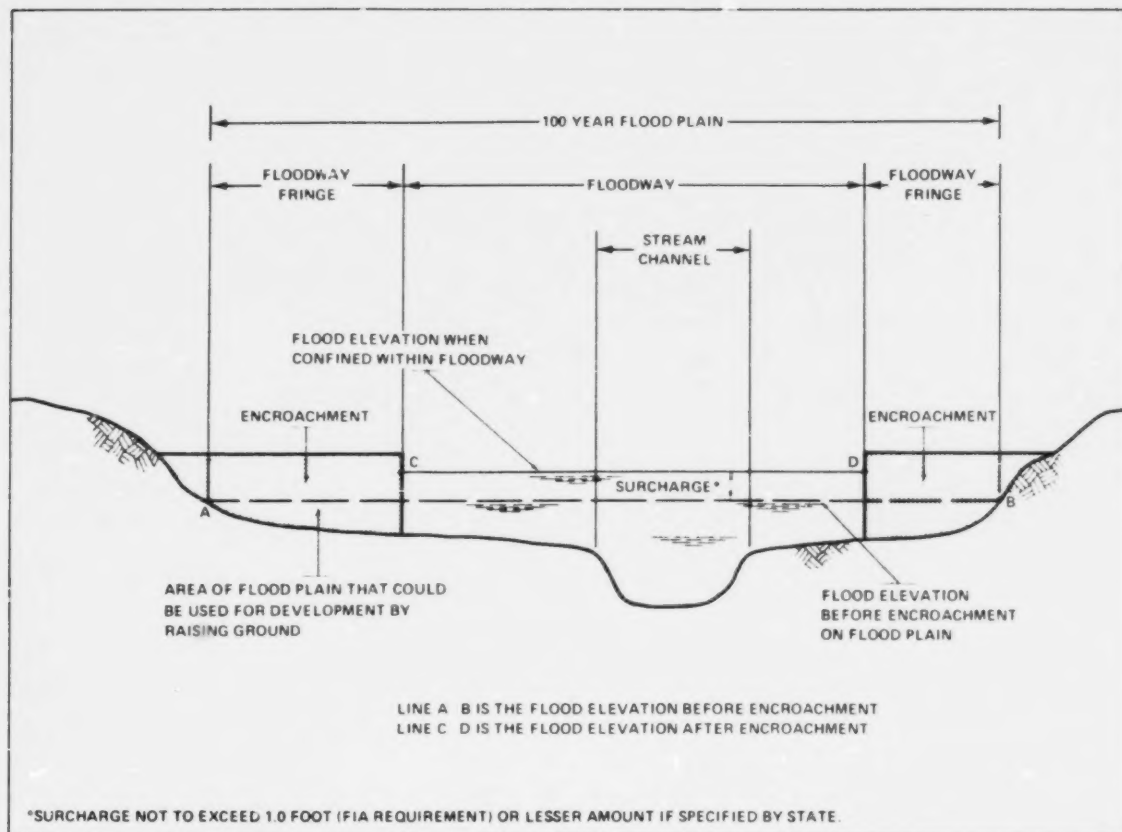
TABLE 1

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
Federal Insurance Administration

CITY OF LONGVIEW, TX
(GREGG AND HARRISON COS.)

FLOODWAY DATA

SCHOOL BRANCH CREEK, DRAIN No. 3,
RAY CREEK AND LAFAMO CREEK



FLOODWAY SCHEMATIC

Figure 5

Average Difference Between 10- and 100-year Floods	Variation
Less than 2 feet	0.5 foot
2 to 7 feet	1.0 foot
7.1 to 12 feet	2.0 feet
More than 12 feet	3.0 feet

Forty-five (45) reaches meeting the above criteria were required for the flooding sources of Longview. These included thirty-five (35) on Grace Creek and its tributaries, four (4) on Iron Bridge Creek, five (5) on Eastman Lake Creek and its tributary, and one (1) on Lafamo Creek. The locations of these reaches are shown on the various Flood Profiles (Exhibit 1).

5.2 Flood Hazard Factors

The Flood Hazard Factor (FHF) is the FIA device used to correlate flood information with insurance rate tables. Correlations between property damage from floods and their FHF's are used to set actuarial insurance premium rate tables based on FHF's from 005 to 200.

The FHF for a reach is the average weighted difference between the 10- and 100-year flood water-surface elevations expressed to the nearest one-half foot, and shown as a three digit code. For example, if the difference between water-surface elevations of the 10-year and 100-year floods is 0.7 foot, the FHF is 005; if the difference is 1.4 feet, the FHF is 015; if the difference is 5.0 feet, the FHF is 050. When the difference between the 10-year and 100-year water-surface elevations is greater than 10.0 feet, accuracy for the FHF is to the nearest foot.

5.3 Flood Insurance Zones

After the determination of reaches and their respective FHF's, the entire incorporated area of the City of Longview was divided into zones, each having a specific flood potential or hazard. Each zone was assigned one of the following flood insurance zone designations:

Zone A:	Special Flood Hazard Areas inundated by the 100-year flood, determined by approximate methods, no base flood elevations shown, or FHF's determined.
Zones A1, A2, A3, A4, A5, A6, A7, A8, A10, A14, and A25:	Special Flood Hazard Areas inundated by the 100-year flood, determined by detailed methods; base flood elevations shown, and zones subdivided according to FHF's.
Zone B:	Areas between Zones A1, A2, A3, A4, A5, A6, A7, A8, A10, A14, and A25 and the limits of the 500-year flood. Zone B is not subdivided.
Zone C:	Areas not subject to flooding by the 500-year flood. Zone C is not subdivided.

Table 2, "Flood Insurance Zone Data," summarizes the flood elevation differences, FHF's, flood insurance zones, and base flood elevations for each flooding source studied in detail in the community.

5.4 Flood Insurance Rate Map Description

The Flood Insurance Rate Map for the City of Longview is, for insurance purposes, the principal result of the Flood Insurance Study. This map (published separately) contains the official delineation of flood insurance zones and base flood elevation lines. Base flood elevation lines show the locations of the expected whole-foot water-surface elevations of the base (100-year) flood. This map is developed in accordance with the latest flood insurance map preparation guidelines published by the FIA.

6.0 OTHER STUDIES

USGS flood prone area maps developed for the FIA, HUD, to meet provisions of the National Flood Insurance Act of 1968 were available, with partial areal coverage. Since flood profiles in the present study result from detailed analyses and reflect existing conditions (1975), they supersede those published earlier.

This study is authoritative for purposes of the Flood Insurance Program and the data presented here either supersede or are compatible with previous determinations.

7.0 LOCATION OF DATA

Survey, hydrologic, hydraulic, and other pertinent data used in this study are on file for five (5) years (through 1981) at the home office of Black & Veatch, Consulting Engineers, Special Projects Division, 1500 Meadow Lake Parkway, Kansas City, Missouri 64114.

8.0 BIBLIOGRAPHY AND REFERENCES

1. Marvin Springer and Associates, Urban Planner-Area Development Consultants (Dallas, Texas), "Improvement Plan Downtown Longview, Texas," October 1972.
2. U. S. Department of Commerce, National Weather Service, "Climatic Summary of the United States, Supplement for 1951 through 1960, Texas," 1965.

FLOODING SOURCE	PANEL ¹	ELEVATION DIFFERENCE ² BETWEEN 1.0% (100-YEAR) FLOOD AND			FHF	ZONE	BASE FLOOD ELEVATION ³
		10% (10 YR.)	2% (50 YR.)	0.2% (500 YR.)			
Guthrie Creek							
Reach 1	-0002B	-3.8	-0.8	+0.4	040	A8	Varies
Reach 2	-0002B	-0.9	-0.2	+0.6	010	A2	Varies
Reach 3	-0002B	-2.7	-1.1	+0.7	025	A5	Varies
Reach 4	-0002B	-1.2	-0.2	+0.5	010	A2	Varies
Johnston Creek							
Reach 1	-0002B	-0.6	-0.2	+0.5	005	A1	Varies
Reach 2	-0002B	-1.4	-0.3	+0.7	015	A3	Varies
Reach 3	-0002B	-0.4	-0.1	+0.2	005	A1	Varies
Oakland Creek							
Reach 1	-0002B	-1.4	-0.4	+1.1	015	A3	Varies
Reach 2	-0002B	-2.7	-0.9	+0.7	030	A6	Varies
Reach 3	-0002B	-1.5	-0.4	+0.7	015	A3	Varies
Reach 4	-0002B	-2.9	-0.4	+0.4	030	A6	Varies
Reach 5	-0002B	-1.1	-0.4	+0.6	010	A2	Varies

¹FLOOD INSURANCE RATE MAP PANEL

²WEIGHTED AVERAGE

³ROUNDED TO NEAREST FOOT

TABLE 2

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
Federal Insurance Administration

CITY OF LONGVIEW, TX
(GREGG AND HARRISON COS.)

FLOOD INSURANCE ZONE DATA

GUTHRIE CREEK, JOHNSTON CREEK AND OAKLAND CREEK

FLOODING SOURCE	PANEL ¹	ELEVATION DIFFERENCE ² BETWEEN 1.0% (100-YEAR) FLOOD AND			FHF	ZONE	BASE FLOOD ELEVATION ³
		10% (10 YR.)	2% (50 YR.)	0.2% (500 YR.)			
Wade Creek							
Reach 1	-0002B,0004B	-1.6	-0.6	+0.9	015	A3	Varies
Reach 2	-0002B	-0.7	-0.2	+0.4	005	A1	Varies
Reach 3	-0002B	-1.7	-0.2	+0.5	015	A3	Varies
Harris Creek							
Reach 1	-0001B,0002B	-2.4	-0.6	+1.5	025	A5	Varies
Reach 2	-0001B	-1.1	-0.3	+0.5	010	A2	Varies
Reach 3	-0001B	-2.1	-0.2	+0.4	020	A4	Varies
Reach 4	-0001B	-0.6	-0.2	+0.4	005	A1	Varies
Gilmer Creek							
Reach 1	-0001B	-1.1	-0.3	+0.5	010	A2	Varies
Drain No. 2							
Reach 1	-0001B	-0.5	-0.2	+0.6	005	A1	Varies

¹FLOOD INSURANCE RATE MAP PANEL²WEIGHTED AVERAGE³ROUNDED TO NEAREST FOOT

TABLE 2

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
Federal Insurance AdministrationCITY OF LONGVIEW, TX
(GREGG AND HARRISON COS.)

FLOOD INSURANCE ZONE DATA

WADE CREEK, HARRIS CREEK, GILMER CREEK AND DRAIN NO. 2

FLOODING SOURCE	PANEL ¹	ELEVATION DIFFERENCE ² BETWEEN 1.0% (100-YEAR) FLOOD AND			FHF	ZONE	BASE FLOOD ELEVATION ³
		10% (10 YR.)	2% (50 YR.)	0.2% (500 YR.)			
School Branch Creek Reach 1	-0001B	-0.9	-0.2	+0.6	010	A2	Varies
Drain No. 3 Reach 1	-0001B	-0.7	-0.2	+0.4	005	A1	Varies
Ray Creek Reach 1	-0001B	-2.0	-0.5	+0.9	020	A4	Varies
Lafamo Creek Reach 1	-0001B	-1.0	-1.3	+0.6	010	A2	Varies
Drain No. 4 Reach 1	-0001B	-1.0	-0.3	+0.8	010	A2	Varies
Reach 2	-0001B	-3.6	-0.1	+0.7	035	A7	Varies
Reach 3	-0001B	-1.0	-0.2	+0.5	010	A2	Varies
Reach 4	-C001B	-0.6	-0.2	+0.4	005	A1	Varies

¹FLOOD INSURANCE RATE MAP PANEL²WEIGHTED AVERAGE³ROUNDED TO NEAREST FOOT

TABLE 2

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
Federal Insurance AdministrationCITY OF LONGVIEW, TX
(GREGG AND HARRISON COS.)

FLOOD INSURANCE ZONE DATA

SCHOOL BRANCH CREEK, DRAIN No. 3, RAY CREEK,
LAFAMO CREEK AND DRAIN No. 4

FLOODING SOURCE	PANEL ¹	ELEVATION DIFFERENCE ² BETWEEN 1.0% (100-YEAR) FLOOD AND			FHF	ZONE	BASE FLOOD ELEVATION ³
		10% (10 YR.)	2% (50 YR.)	0.2% (500 YR.)			
Eastman Lake Creek							
Reach 1	-0002B	-1.0	-0.3	+0.7	010	A2	Varies
Reach 2	-0002B	-2.6	-0.9	+1.6	025	A5	Varies
Reach 3	-0002B	-0.4	-0.1	+0.3	005	A1	Varies
Drain No. 1							
Reach 1	-0002B	-2.9	-0.5	+1.4	030	A6	Varies
Reach 2	-0002B	-1.5	-0.2	+0.6	015	A3	Varies
Iron Bridge Creek							
Reach 1	-0004B	-4.8	-0.5	+0.7	050	A10	Varies
Reach 2	-0004B	-1.9	-0.4	+0.6	020	A4	Varies
Reach 3	-0004B	-1.4	-0.3	+0.5	015	A3	Varies
Reach 4	-0002B, 0004B	-0.6	-0.2	+0.4	005	A1	Varies
Grace Creek							
Reach 1	-0001B, 0002B, 0004B	-2.1	-0.6	+1.4	020	A4	Varies

¹FLOOD INSURANCE RATE MAP PANEL²WEIGHTED AVERAGE³ROUNDED TO NEAREST FOOT

TABLE 2

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
Federal Insurance AdministrationCITY OF LONGVIEW, TX
(GREGG AND HARRISON COS.)

FLOOD INSURANCE ZONE DATA

EASTMAN LAKE CREEK, DRAIN No. 1,
IRON BRIDGE CREEK AND GRACE CREEK

FLOODING SOURCE	PANEL ¹	ELEVATION DIFFERENCE ² BETWEEN 1.0% (100-YEAR) FLOOD AND			FHF	ZONE	BASE FLOOD ELEVATION ³
		10% (10 YR.)	2% (50 YR.)	0.2% (500 YR.)			
Coushatta Hills Creek							
Reach 1	-0002B	-1.0	-0.4	+0.2	010	A2	Varies
Reach 2	-0002B	-3.7	-0.2	+0.4	035	A7	Varies
Reach 3	-0002B	-1.2	-0.3	+0.8	010	A2	Varies
Reach 4	-0002B	-14.5	-13.7	+0.5	150	A25	Varies
Reach 5	-0002B	-7.2	-5.5	+0.5	070	A14	Varies
Reach 6	-0002B	-2.1	-1.7	+0.4	020	A4	Varies

¹FLOOD INSURANCE RATE MAP PANEL²WEIGHTED AVERAGE³ROUNDED TO NEAREST FOOT

TABLE 2

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
Federal Insurance AdministrationCITY OF LONGVIEW, TX
(GREGG AND HARRISON COS.)

FLOOD INSURANCE ZONE DATA

COUSHATTA HILLS CREEK

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U. S. Department of the Interior, U. S. Geological Survey, Flood Prone Area Map, 15 Minute Series, Kilgore, Texas, 1940, Tatum, Texas, 1958.

TEXT REVISIONS
CITY OF LONGVIEW, TEXAS

9.0 REVISION DESCRIPTION

9.1 Purpose

The purpose of this revision is to incorporate new and/or revised data into the currently effective Flood Insurance Study for the City of Longview, Gregg and Harrison Counties, Texas. This Revision Description is intended to provide updated information which aids in the administration of the National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973.

9.2 Acknowledgments

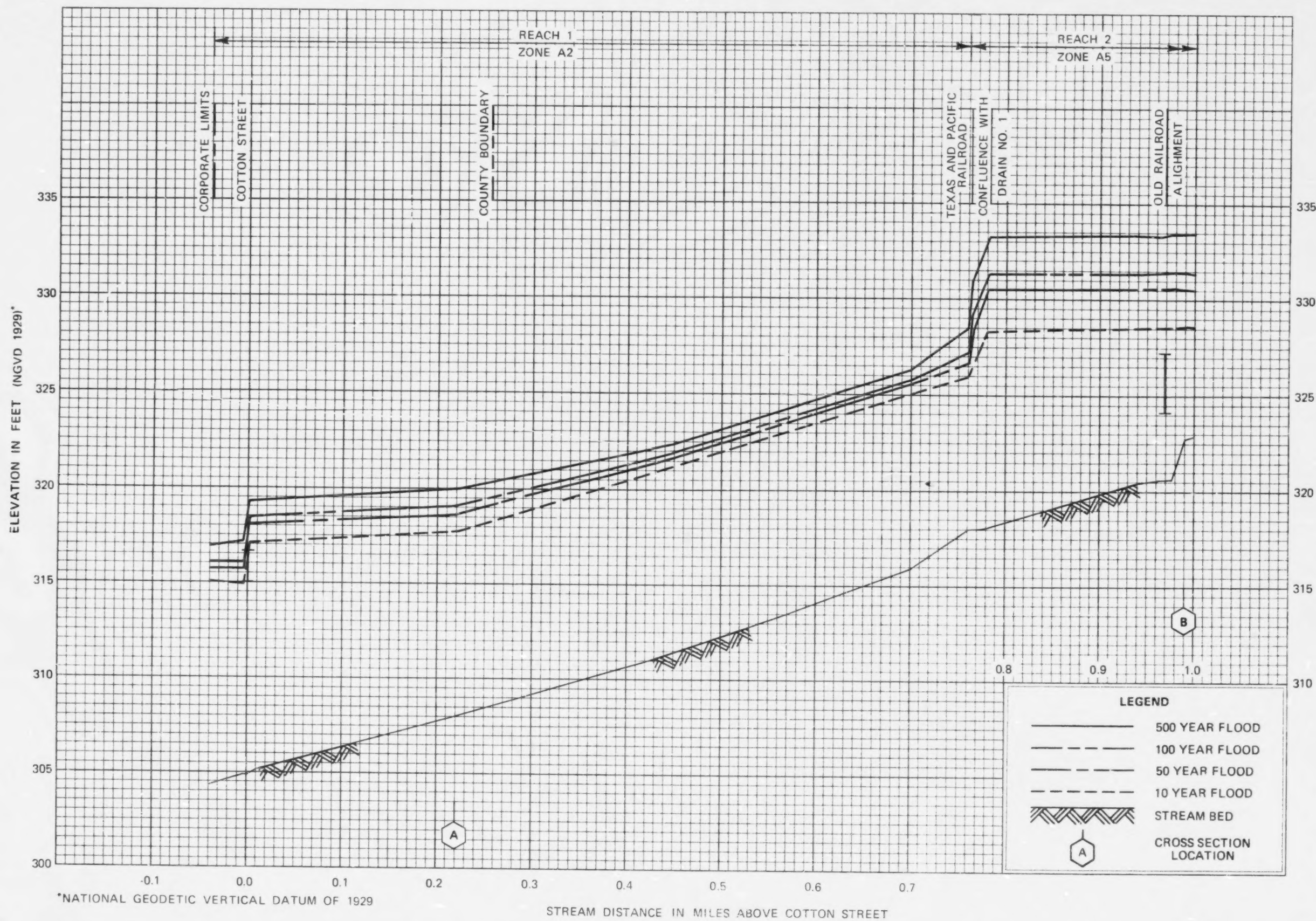
The data for this Revision Description were taken from the information contained within the previously effective Flood Insurance Study for the City of Longview. The Federal Emergency Management Agency (FEMA) reviewed and accepted these data for purposes of this revision.

9.3 Scope

This revision reflects changes in zone delineation, from Zone B to Zone A, along Oakland Creek, an unnamed tributary to Lafamo Creek, and Lake Harris. These changes were incorporated to agree with the more up-to-date flood boundaries of surrounding communities. The Flood Insurance Rate Map (FIRM) and Flood Boundary and Floodway Map (FBFM) were revised to include these changes. The flood boundaries were mapped using the previously effective Flood Insurance Study for the City of Longview (Reference 1).

9.4 Revisions Bibliography

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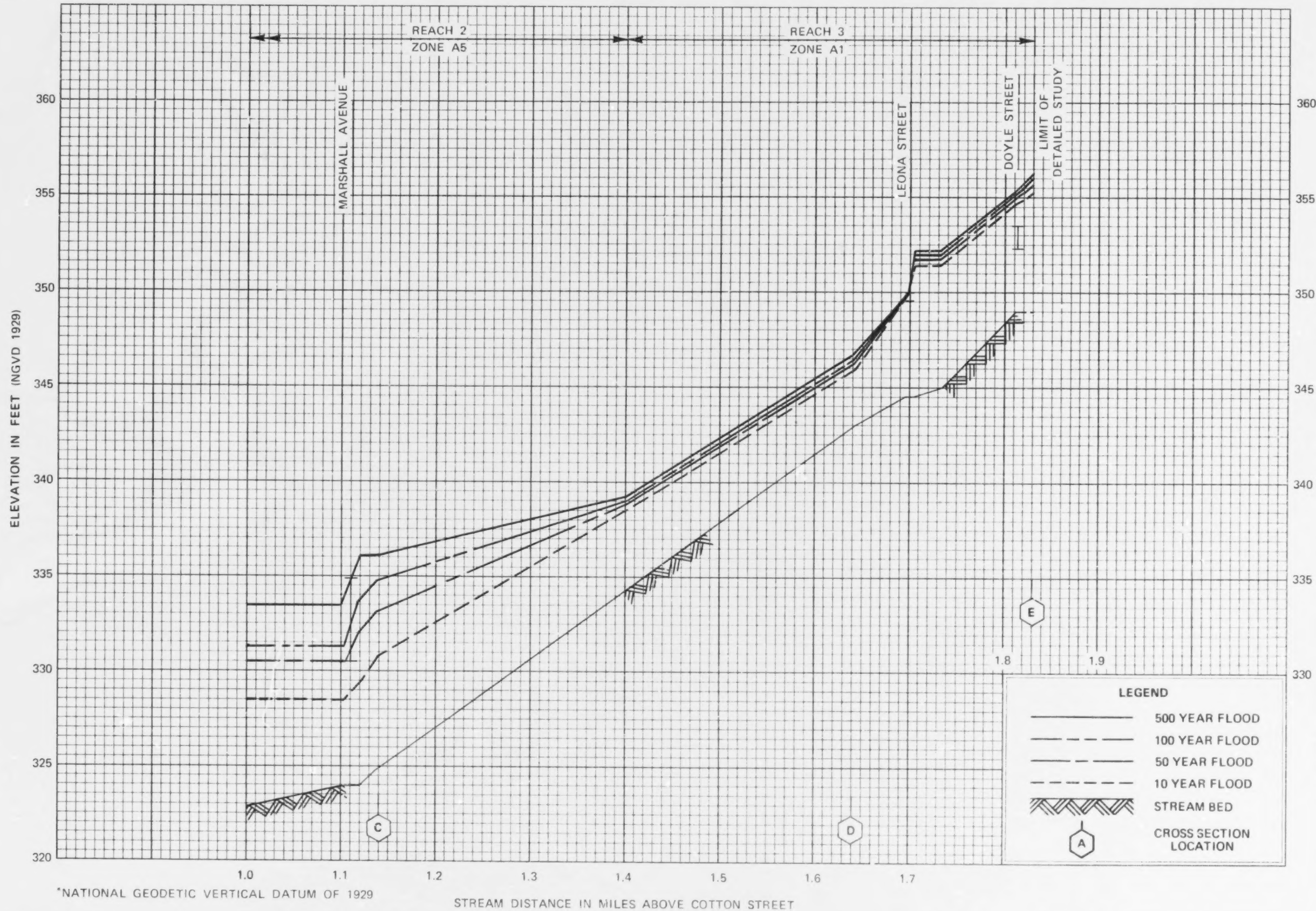
FLOOD PROFILES

EASTMAN LAKE CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

CITY OF LONGVIEW, TX
(GREGG AND HARRISON COS.)

01P



FLOOD PROFILES

EASTMAN LAKE CREEK

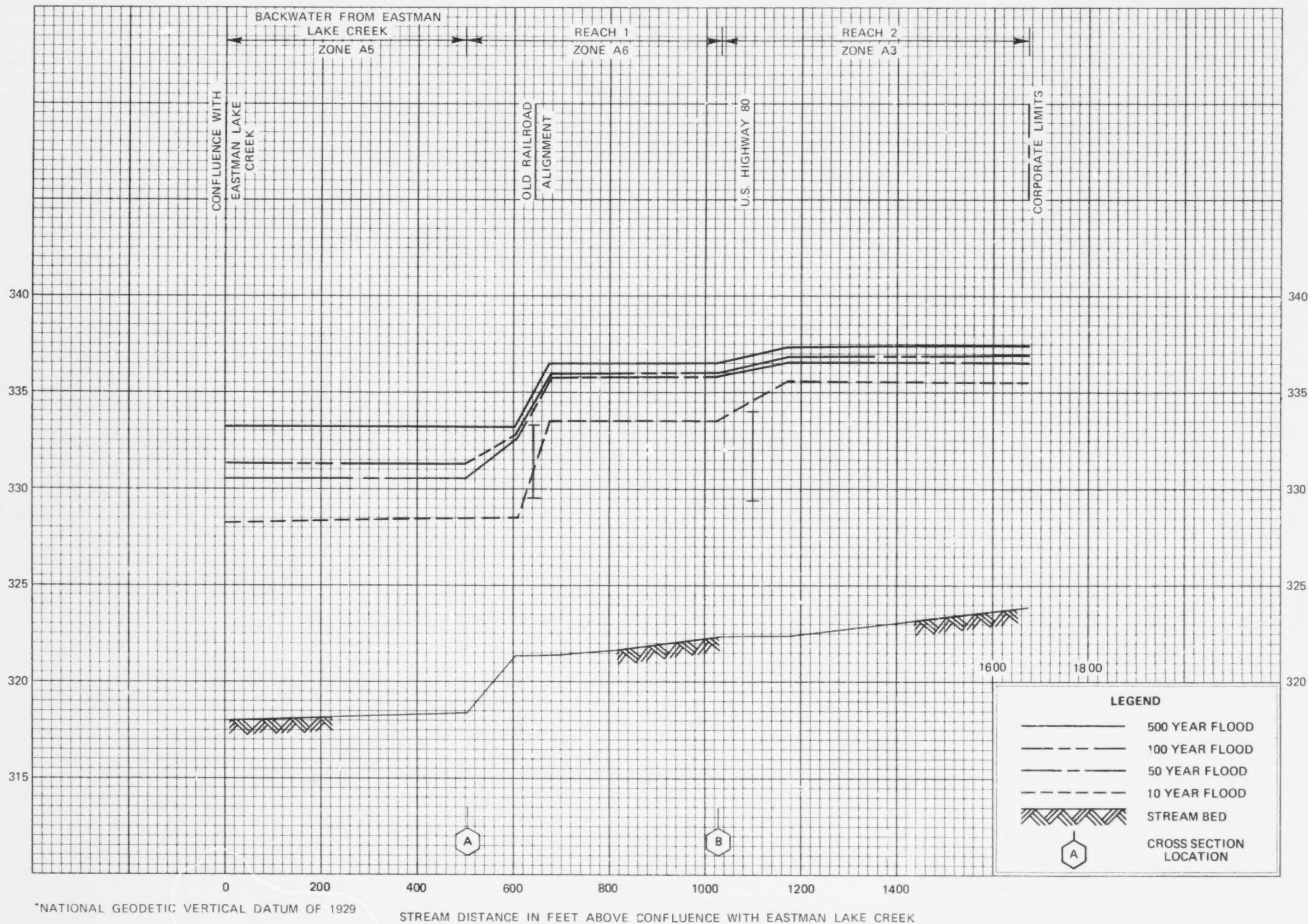
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CITY OF LONGVIEW, TX
(GREGG AND HARRISON COS.)

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ELEVATION IN FEET (NGVD 1929) *



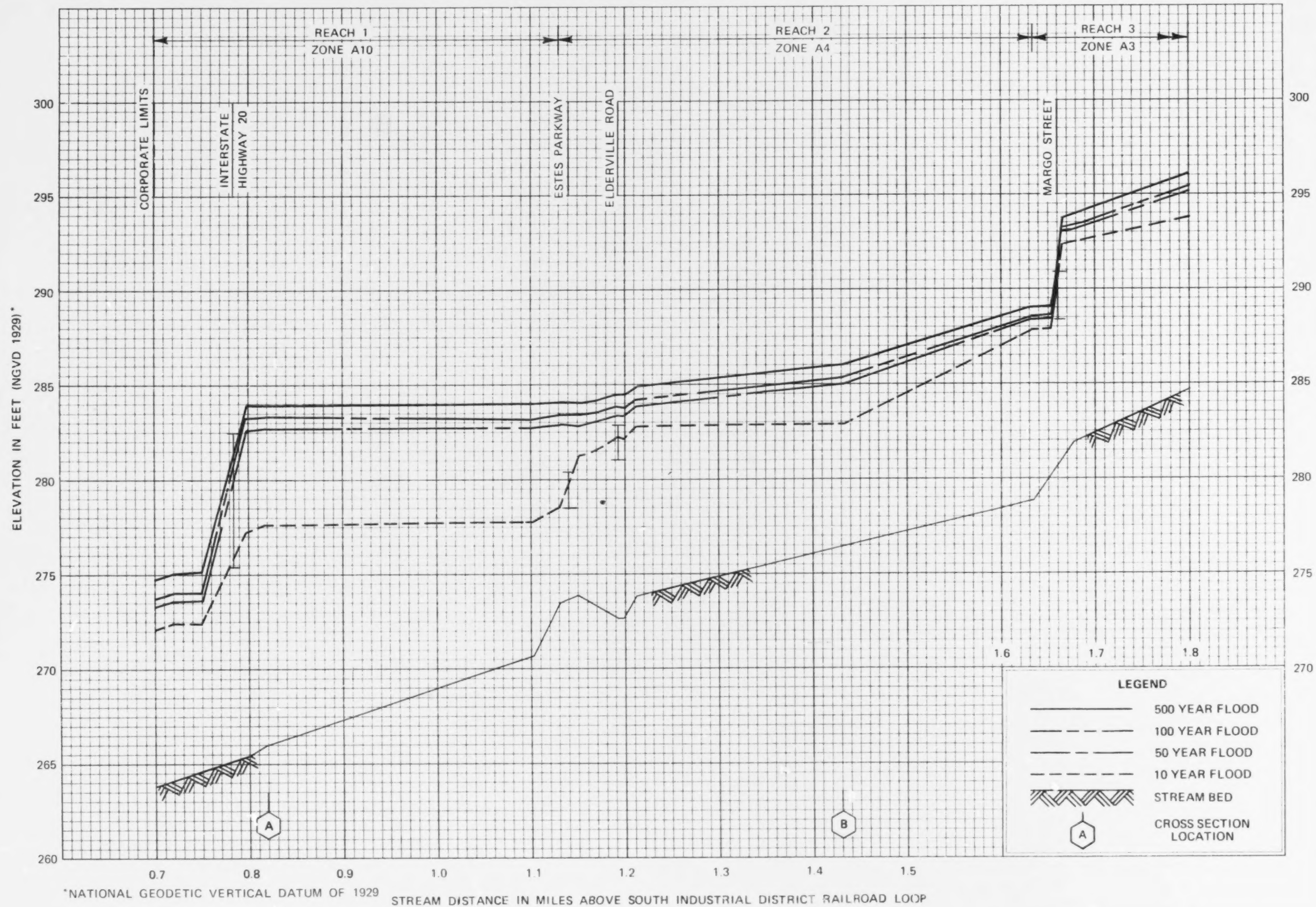
FLOOD PROFILES

DRAIN NO.1

FEDERAL EMERGENCY MANAGEMENT AGENCY

CITY OF LONGVIEW, TX
(GREGG AND HARRISON COS.)

03P

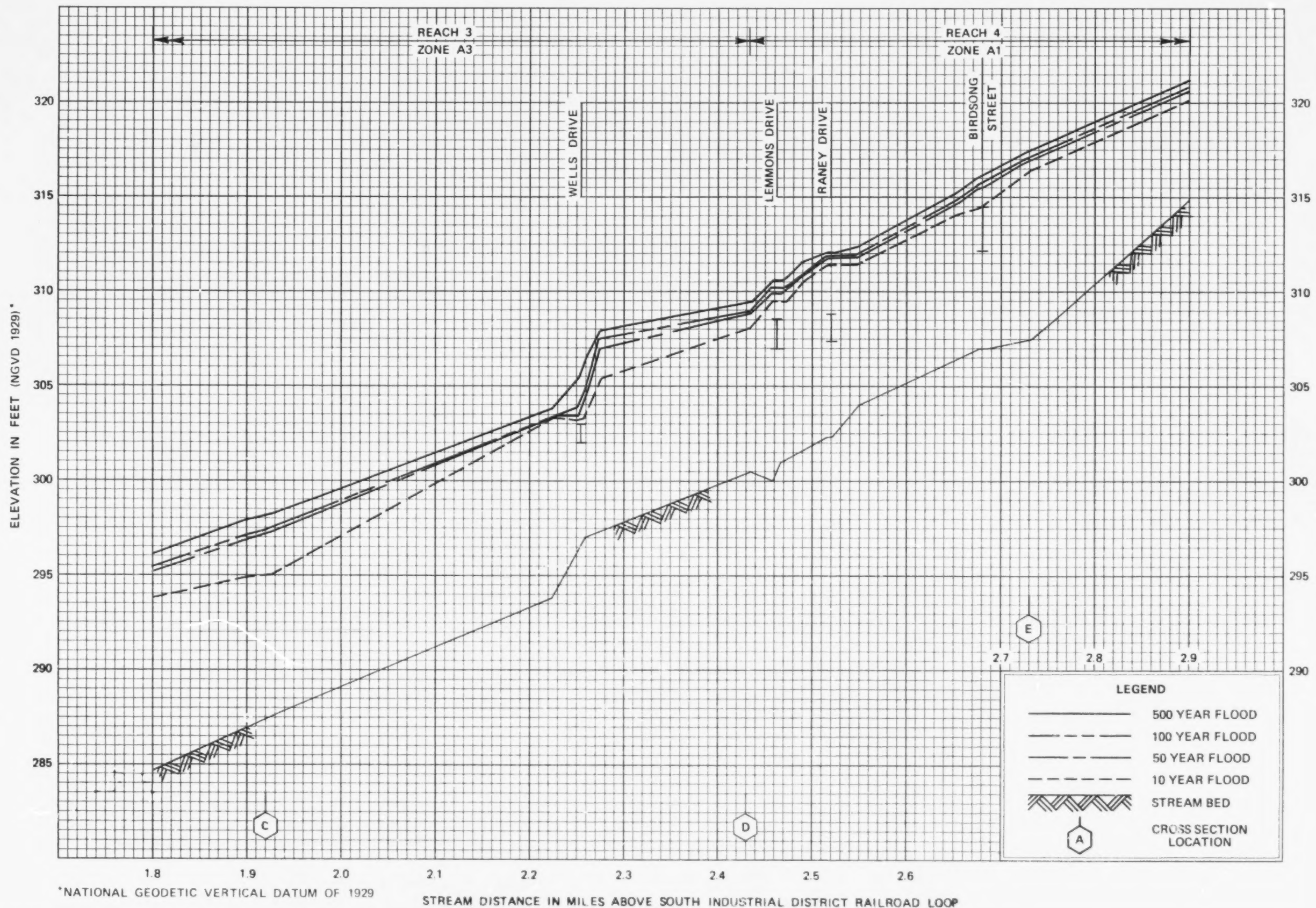


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CITY OF LONGVIEW, TX
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FLOOD PROFILES

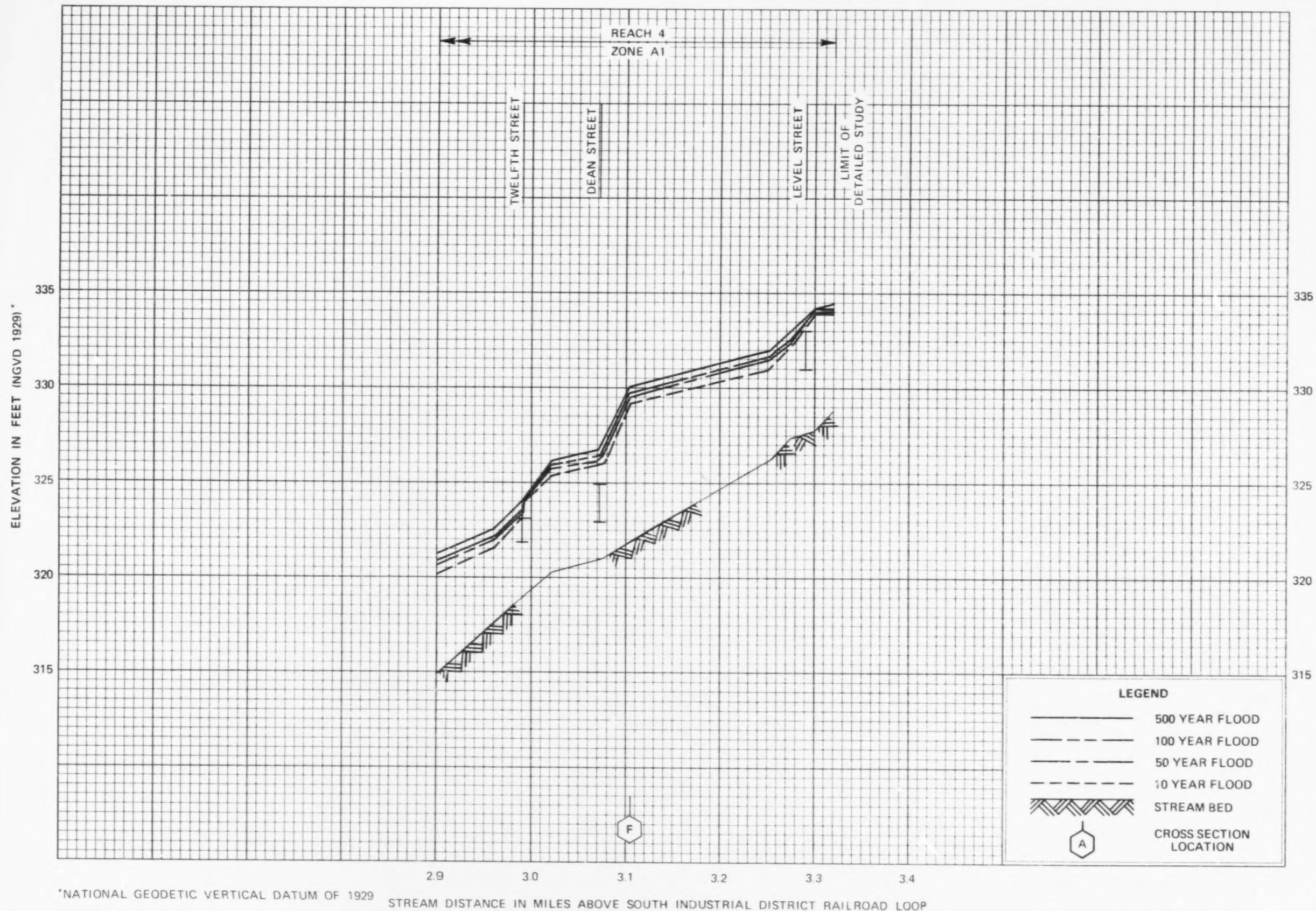
IRON BRIDGE CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

CITY OF LONGVIEW, TX
(GREGG AND HARRISON COS.)

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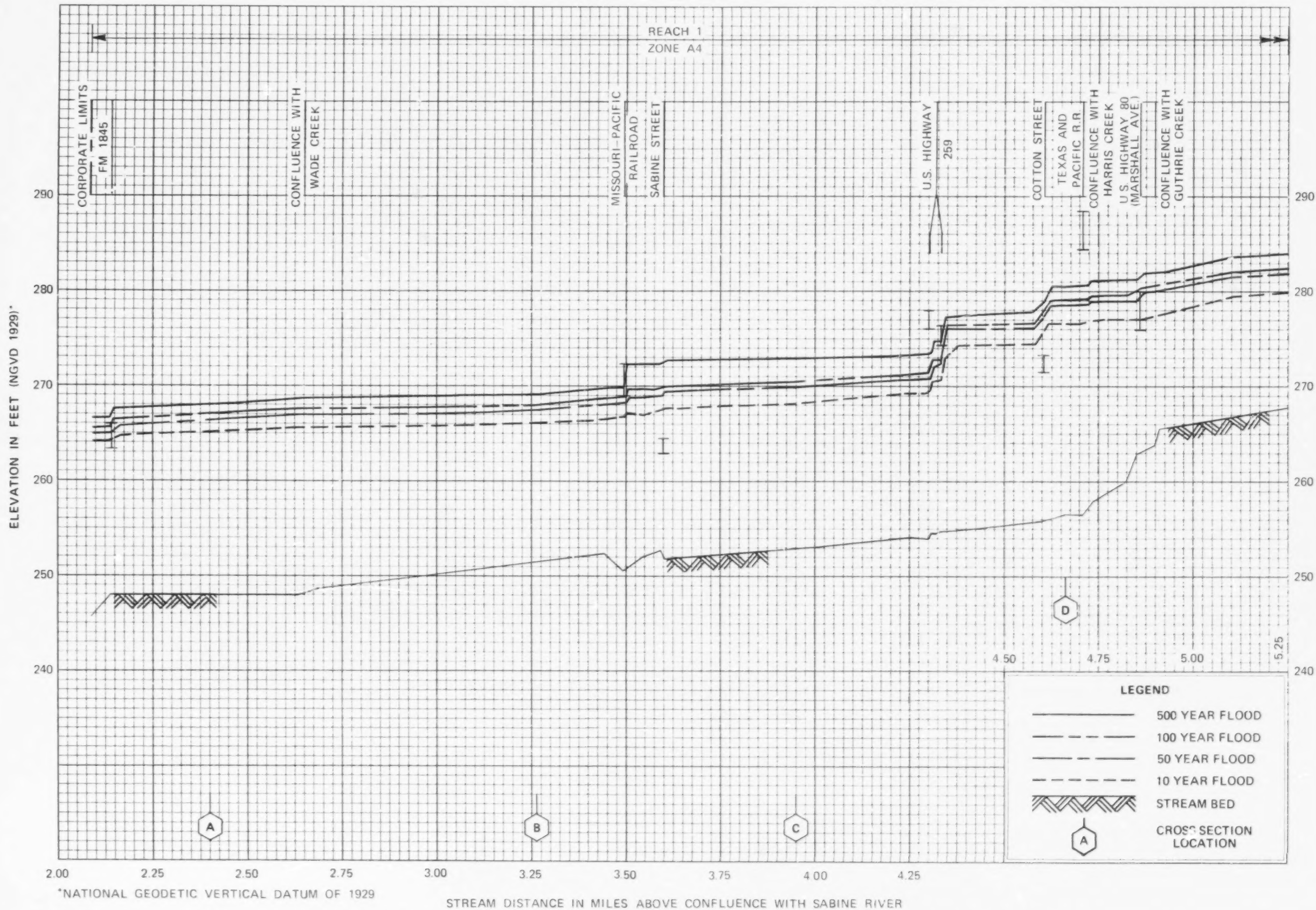
FLOOD PROFILES

IRON BRIDGE CREEK

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CITY OF LONGVIEW, TX
(GREGG AND HARRISON COS.)

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FLOOD PROFILES

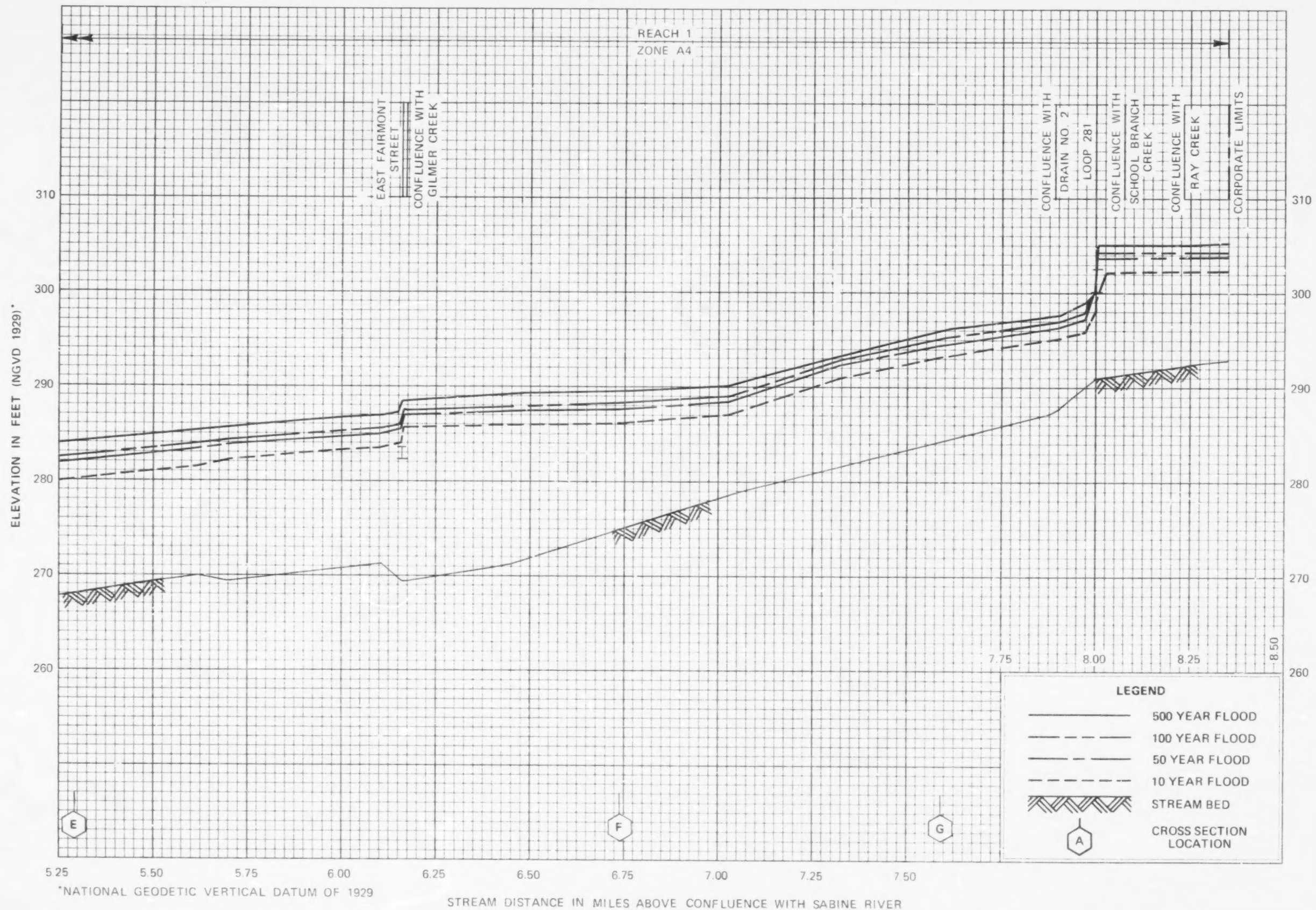
GRACE CREEK

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CITY OF LONGVIEW, TX
(GREGG AND HARRISON COS.)

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FLOOD PROFILES

GRACE CREEK

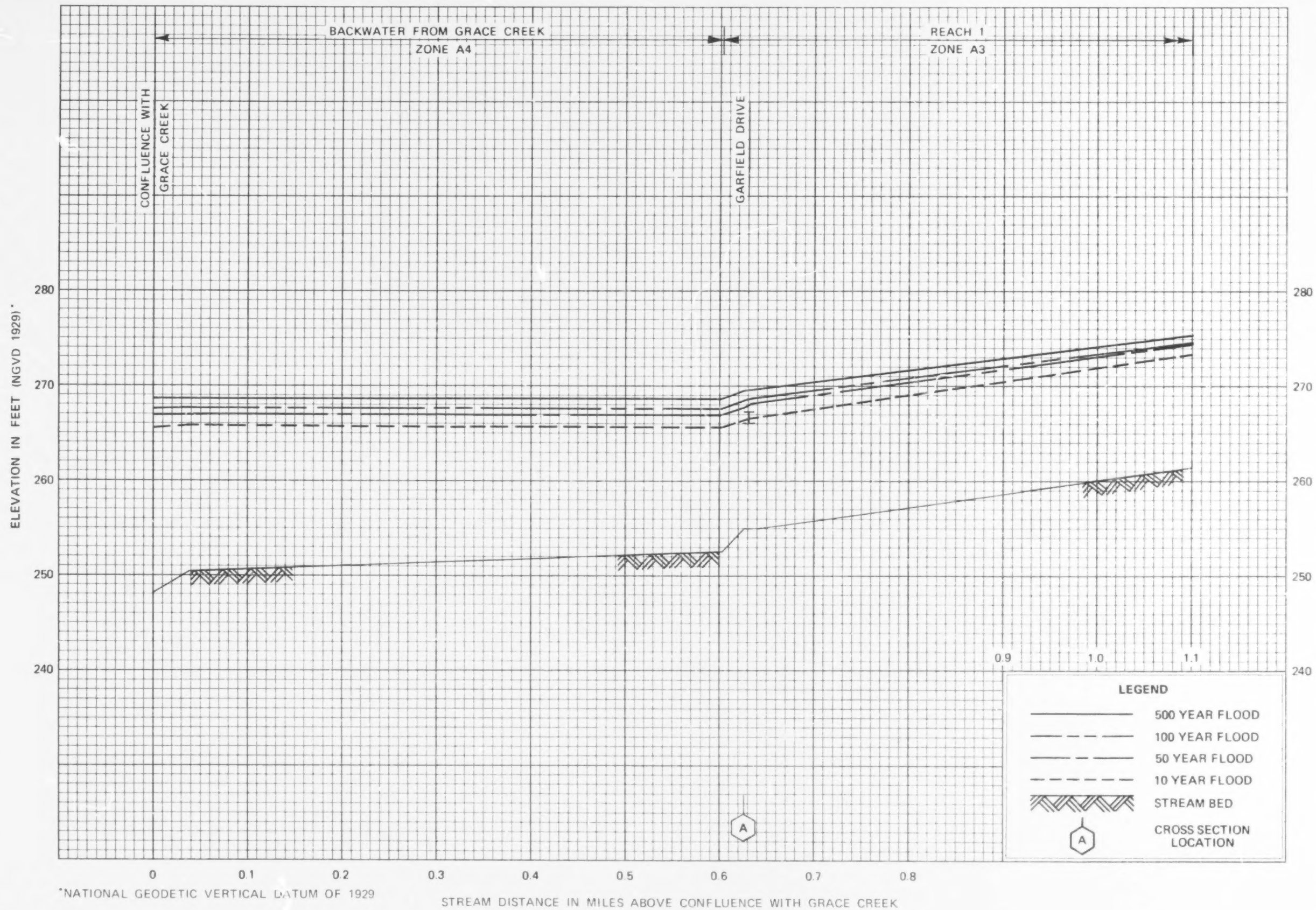
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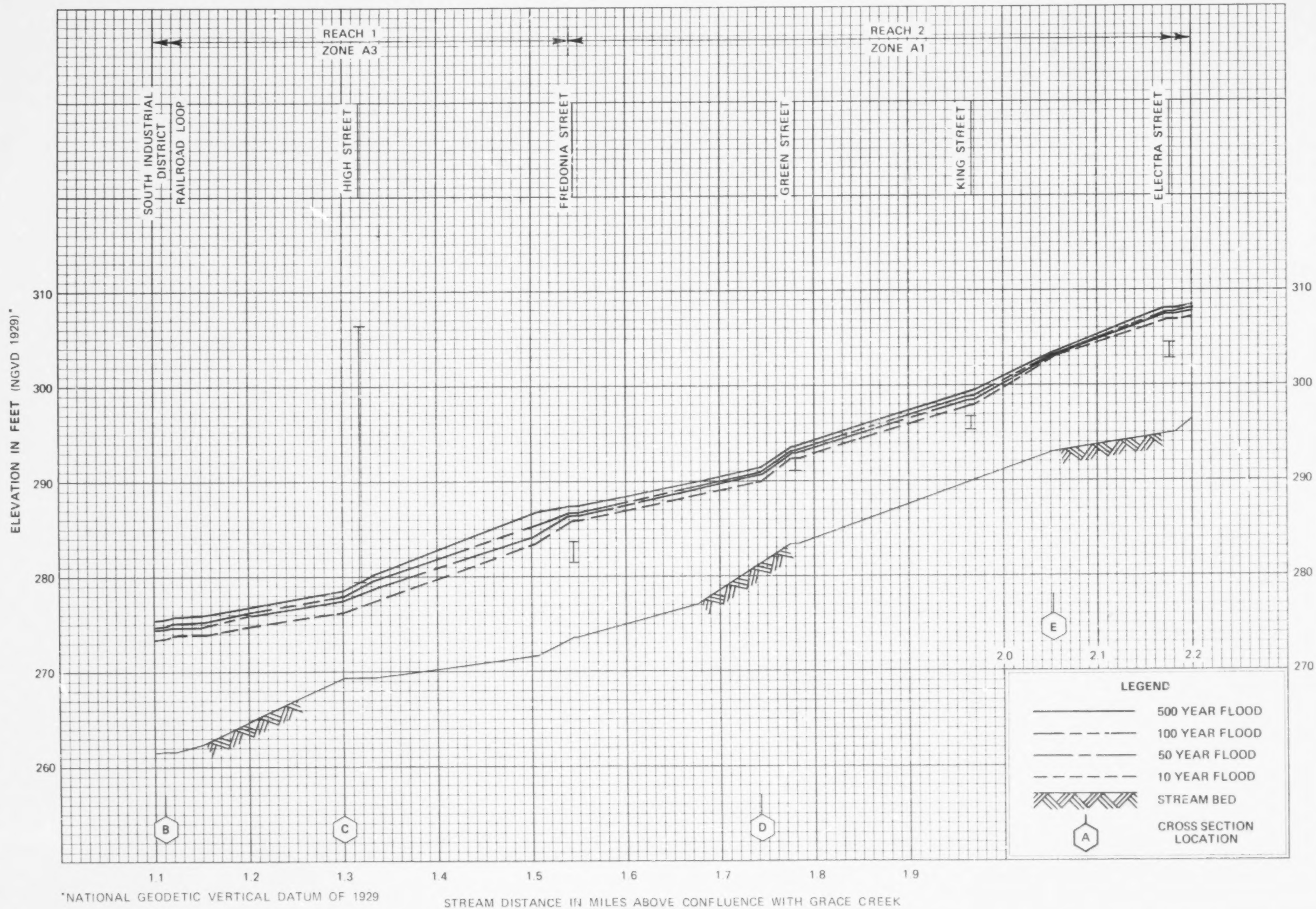
FLOOD PROFILES

WADE CREEK

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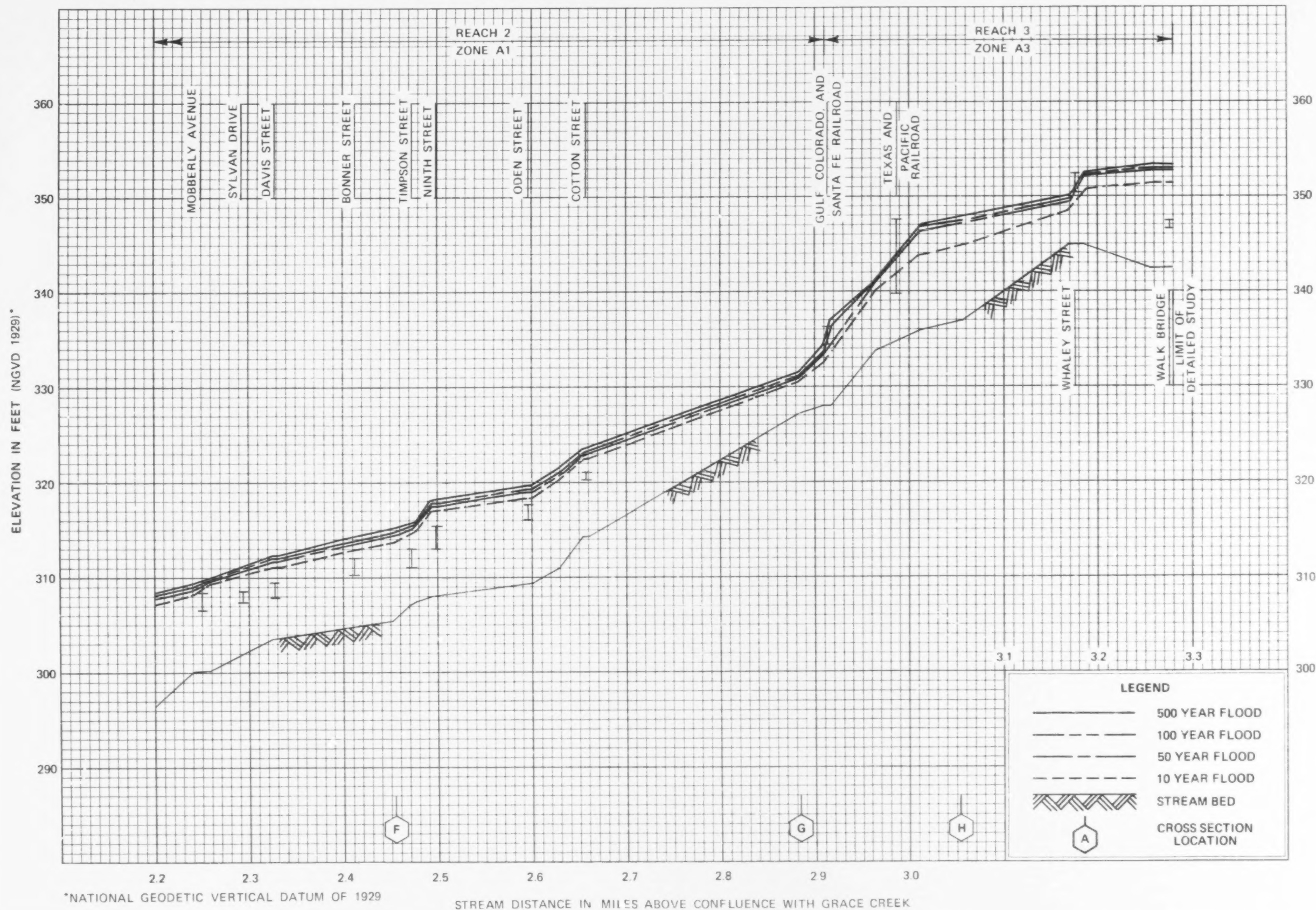
WADE CREEK

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CITY OF LONGVIEW, TX
(GREGG AND HARRISON COS.)

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FLOOD PROFILES

WADE CREEK

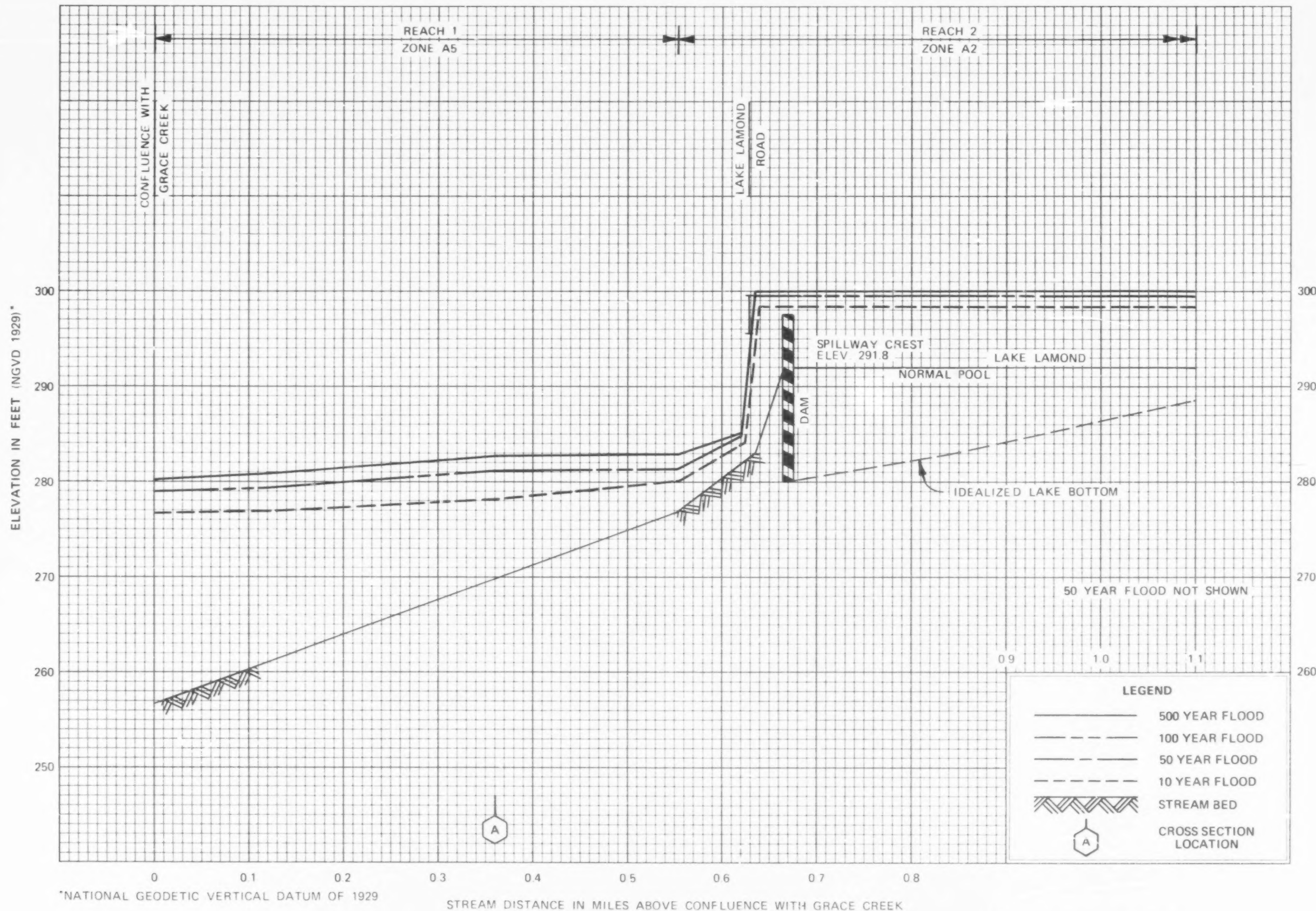
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CITY OF LONGVIEW, TX
(GREGG AND HARRISON COS.)

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FLOOD PROFILES

HARRIS CREEK

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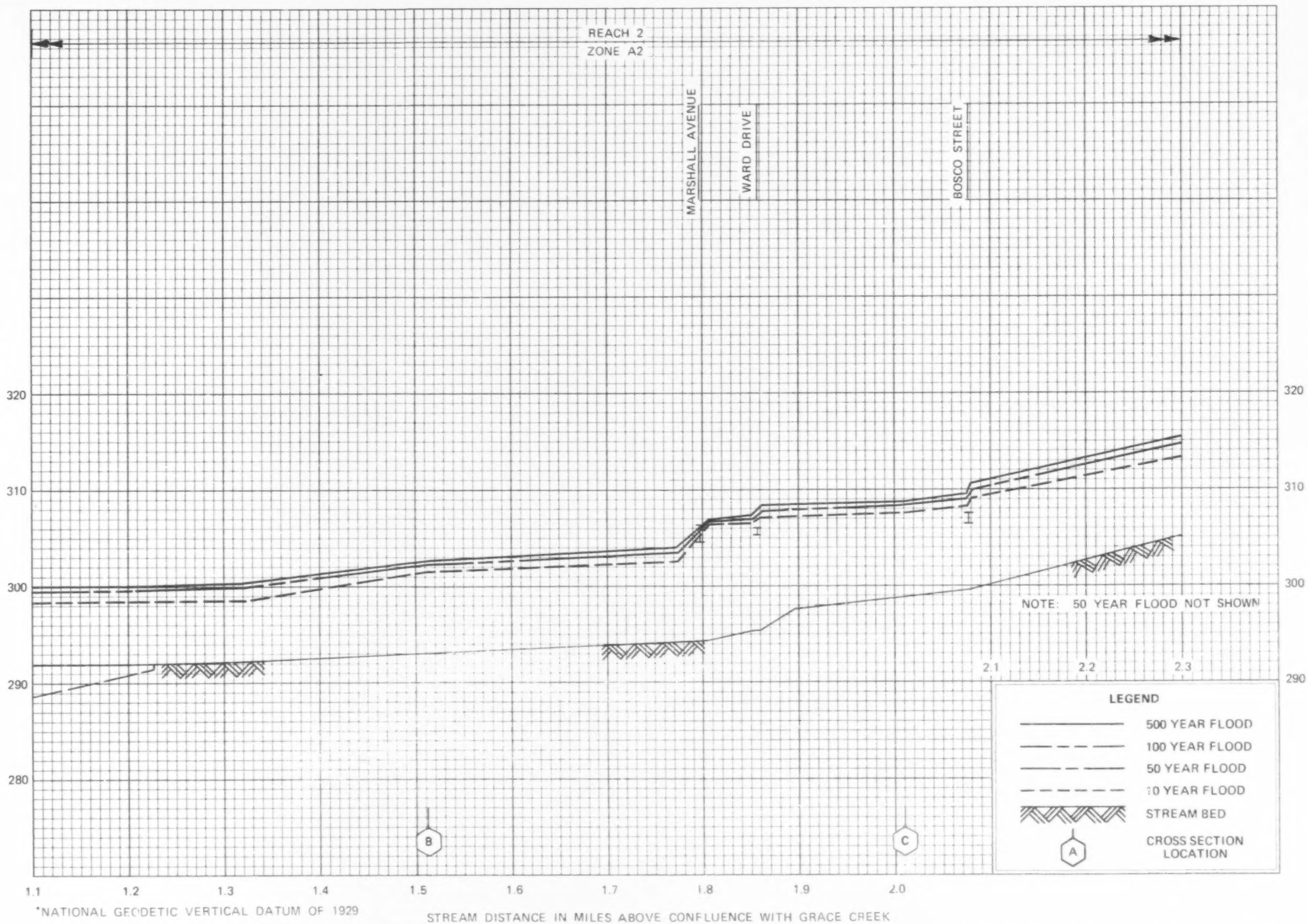
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ELEVATION IN FEET (NGVD 1929)*



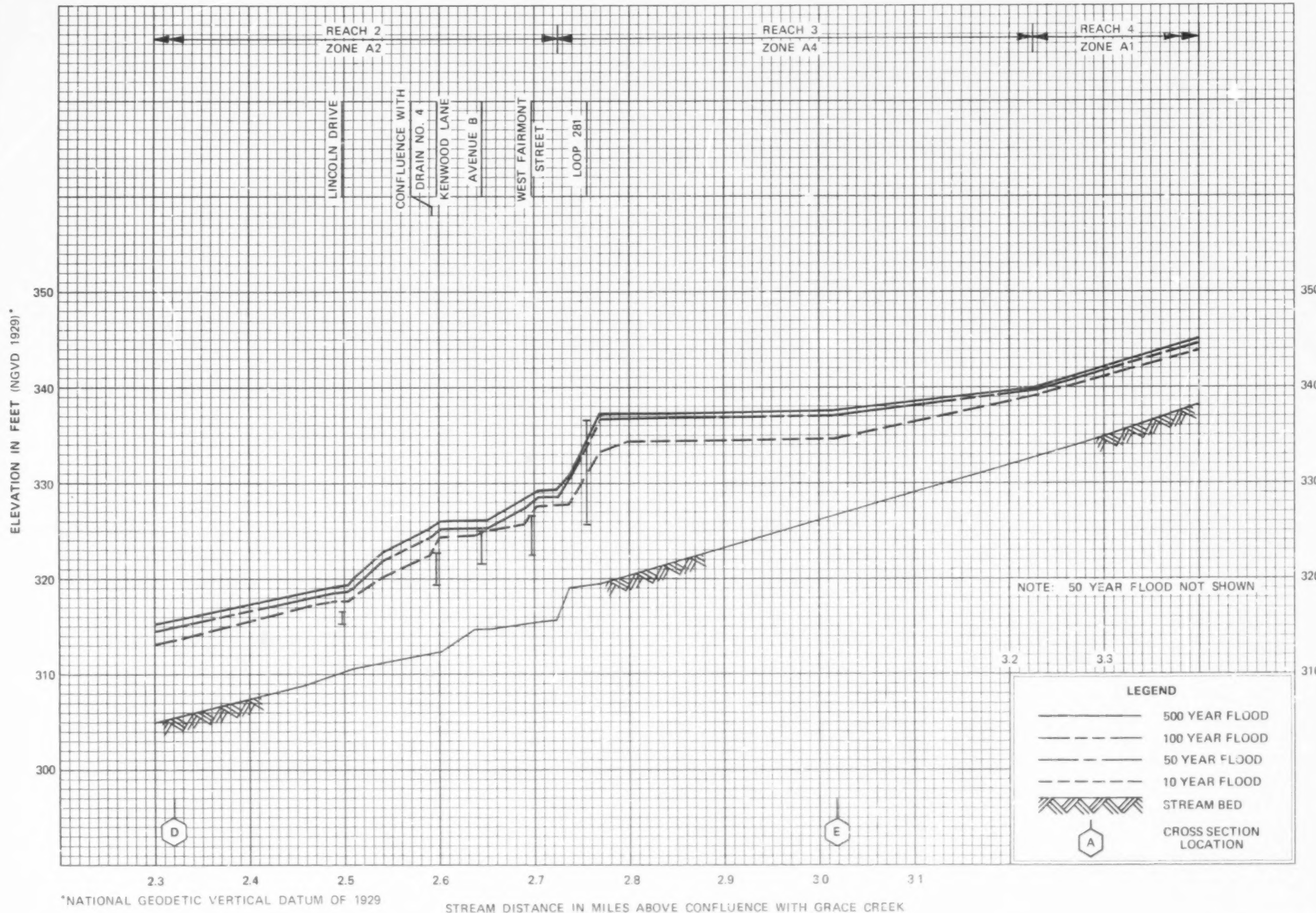
FLOOD PROFILES

HARRIS CREEK

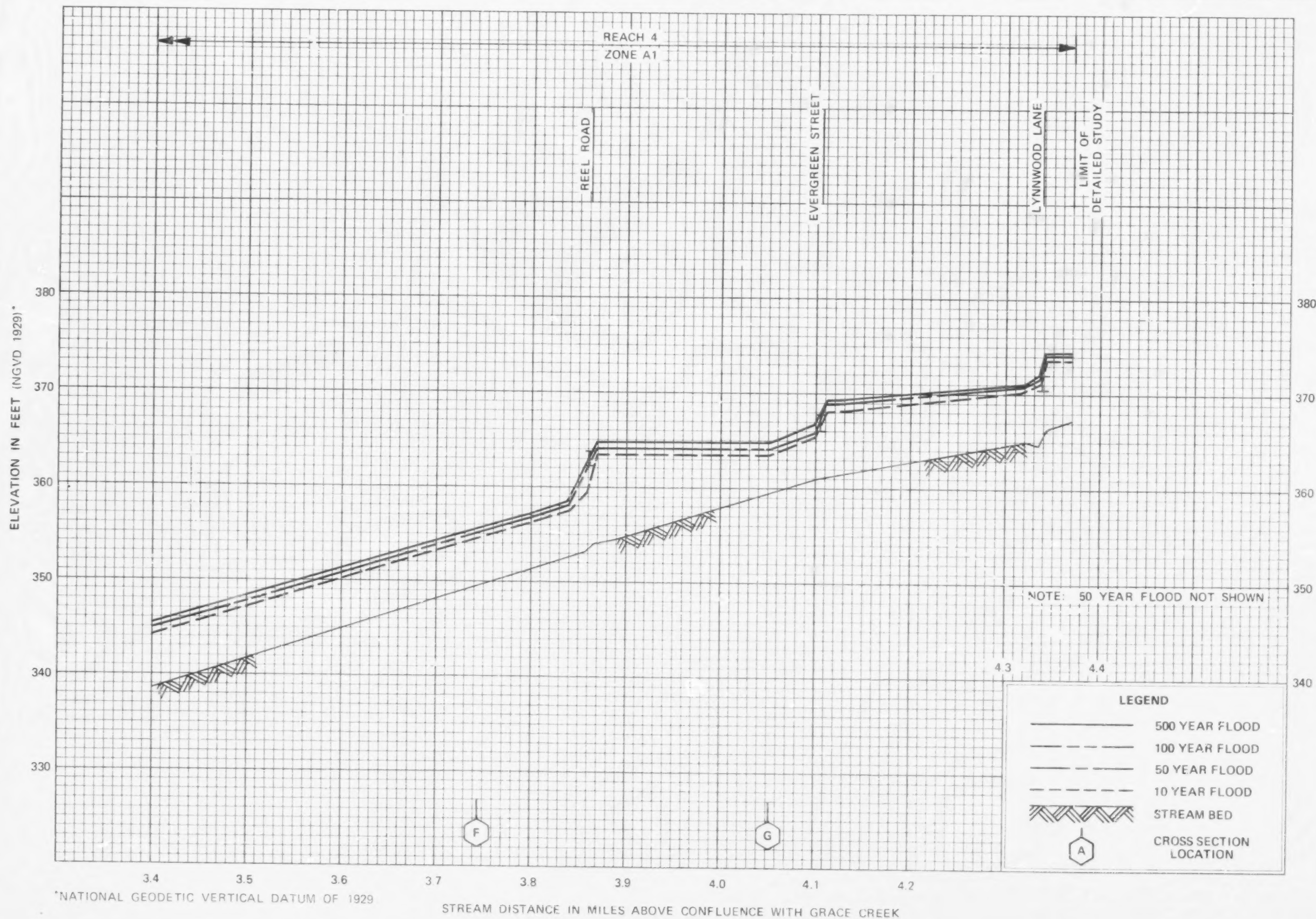
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CITY OF LONGVIEW, TX
(GREGG AND HARRISON COS.)

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FEDERAL EMERGENCY MANAGEMENT AGENCY

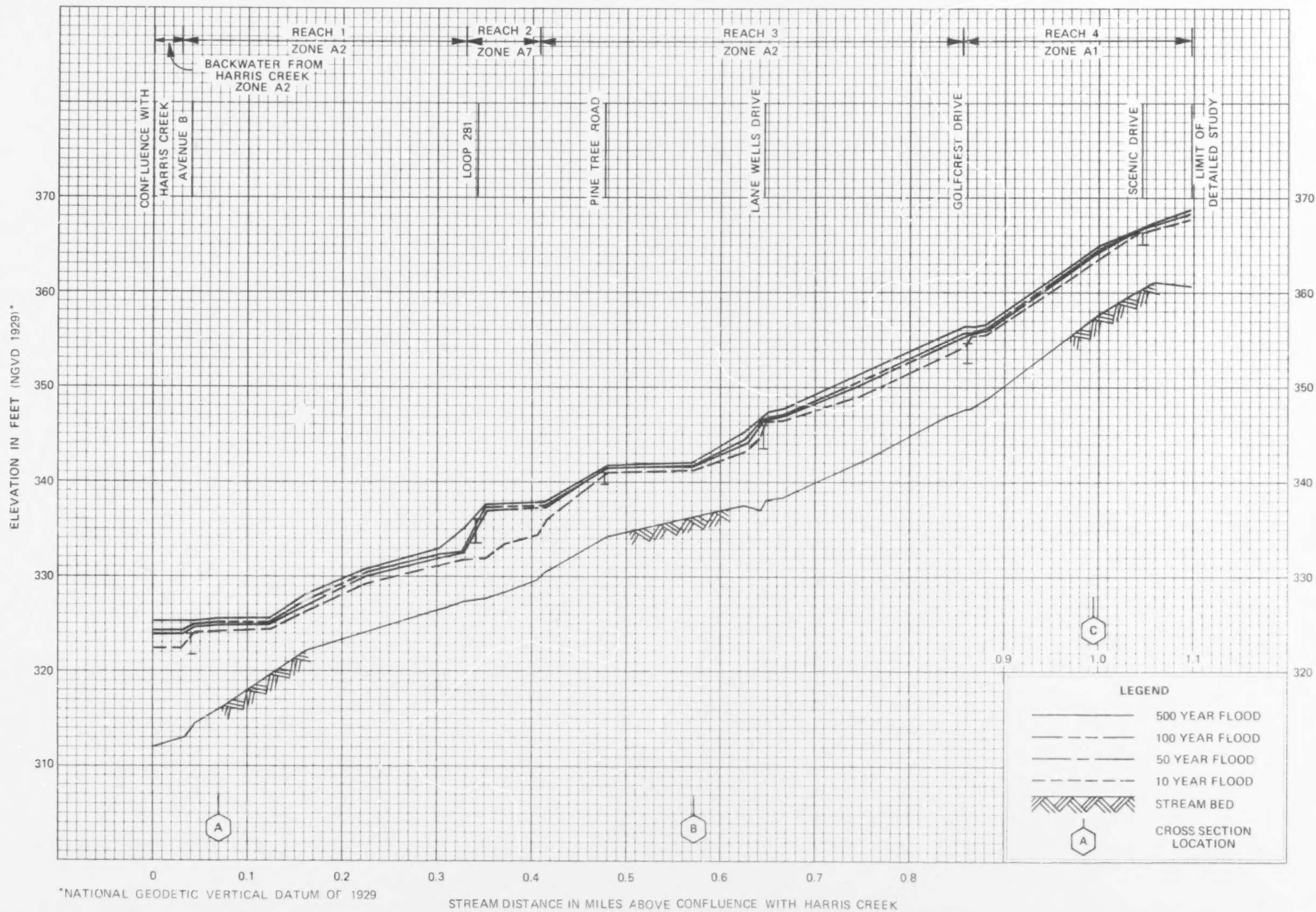


FLOOD PROFILES

HARRIS CREEK

CITY OF LONGVIEW, TX
(GREGG AND HARRISON COS.)

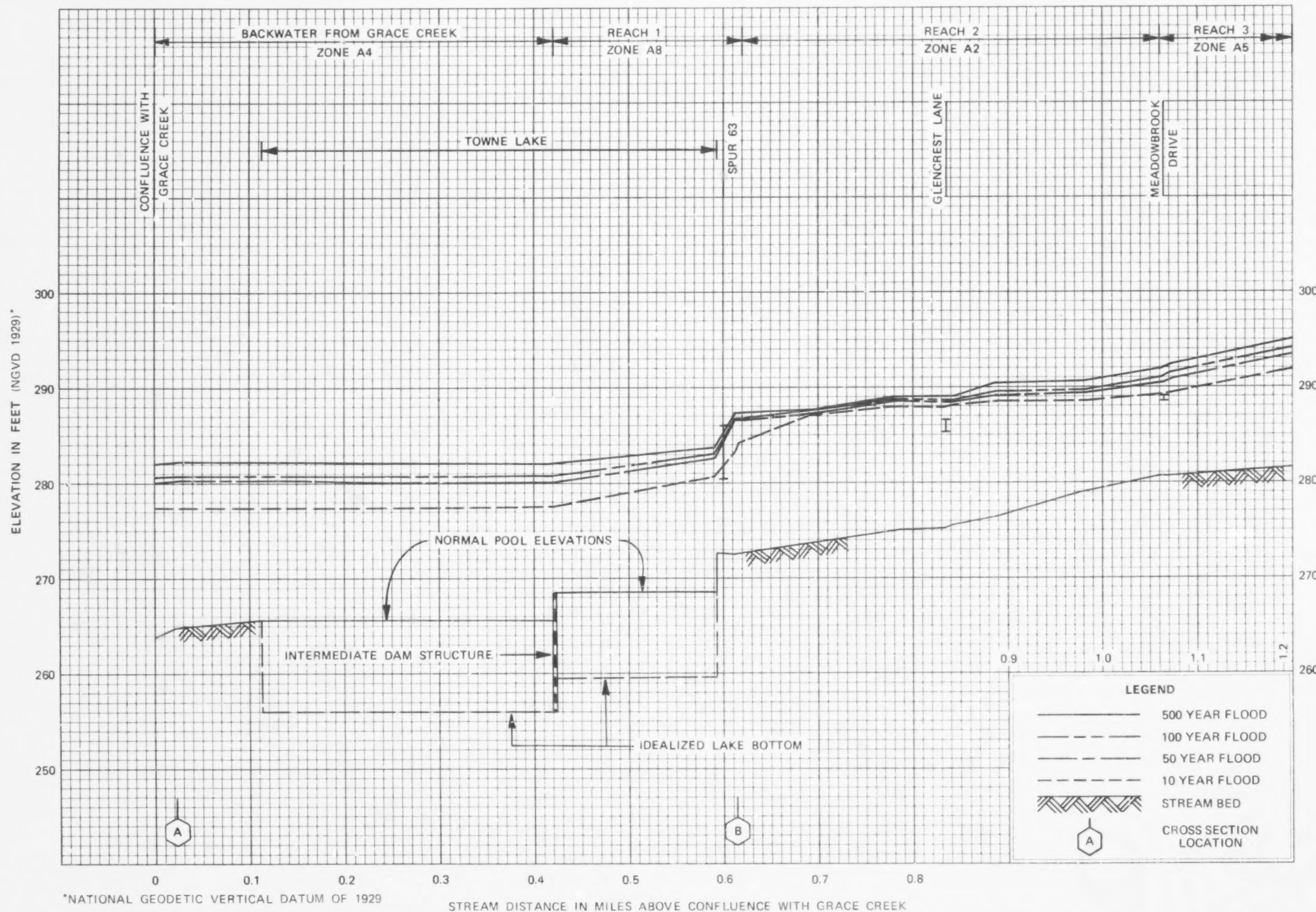
FEDERAL EMERGENCY MANAGEMENT AGENCY



FLOOD PROFILES

DRAIN NO. 4

CITY OF LONGVIEW, TX
(GREGG AND HARRISON COS.)

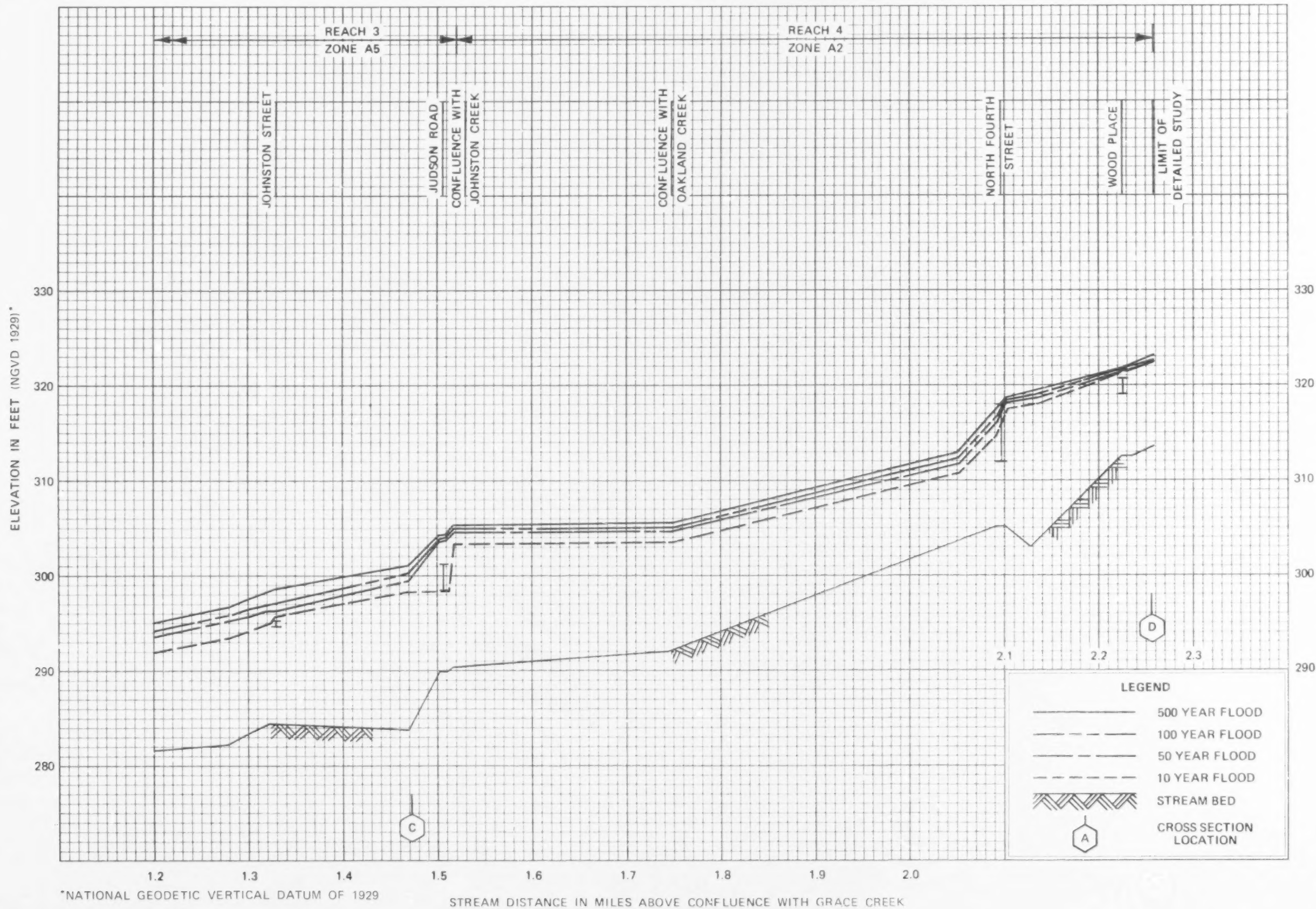


FLOOD PROFILES

GUTHRIE CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

CITY OF LONGVIEW, TX
(GREGG AND HARRISON COS.)

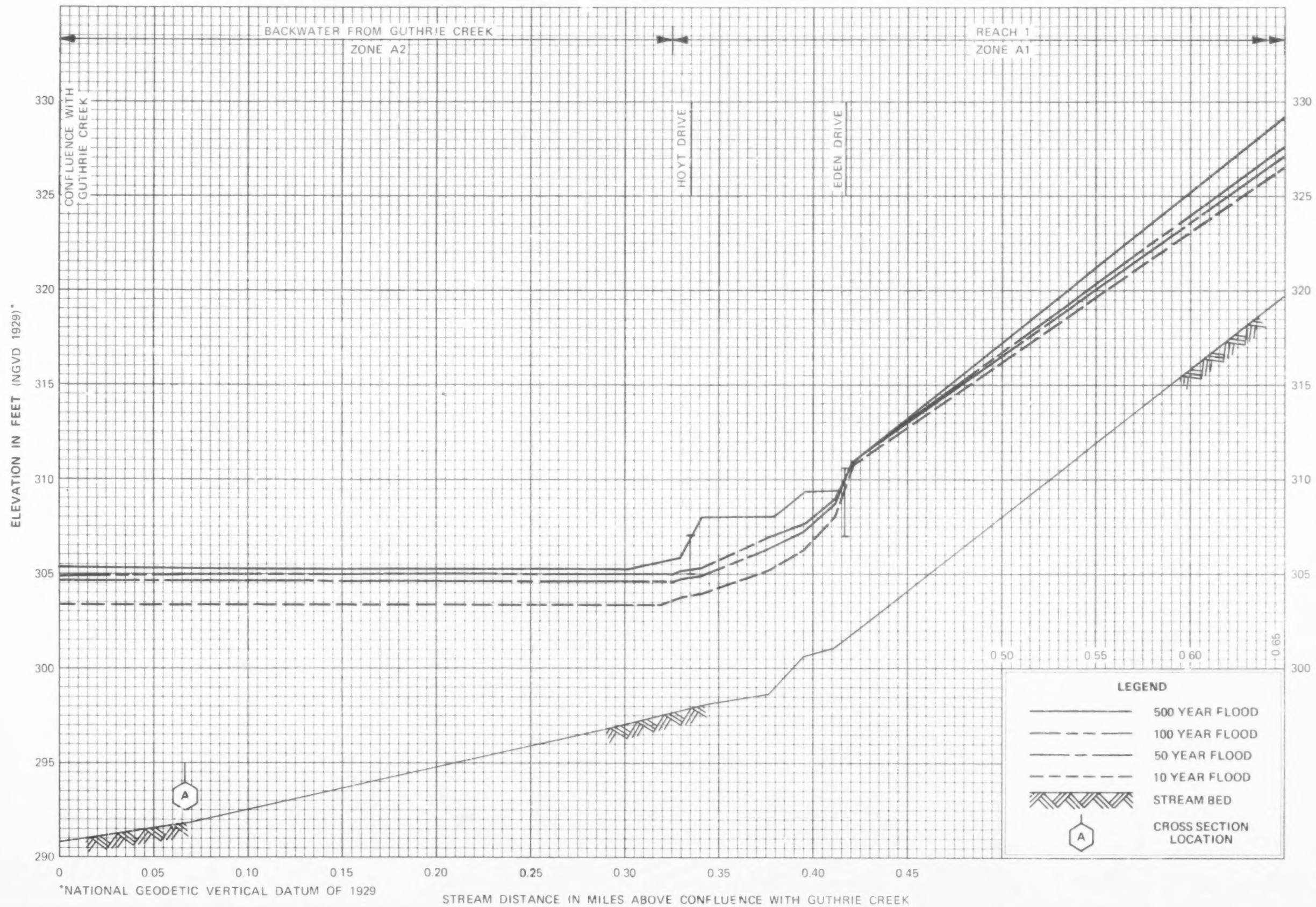


FLOOD PROFILES

GUTHRIE CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

CITY OF LONGVIEW, TX
(GREGG AND HARRISON COS.)



FLOOD PROFILES

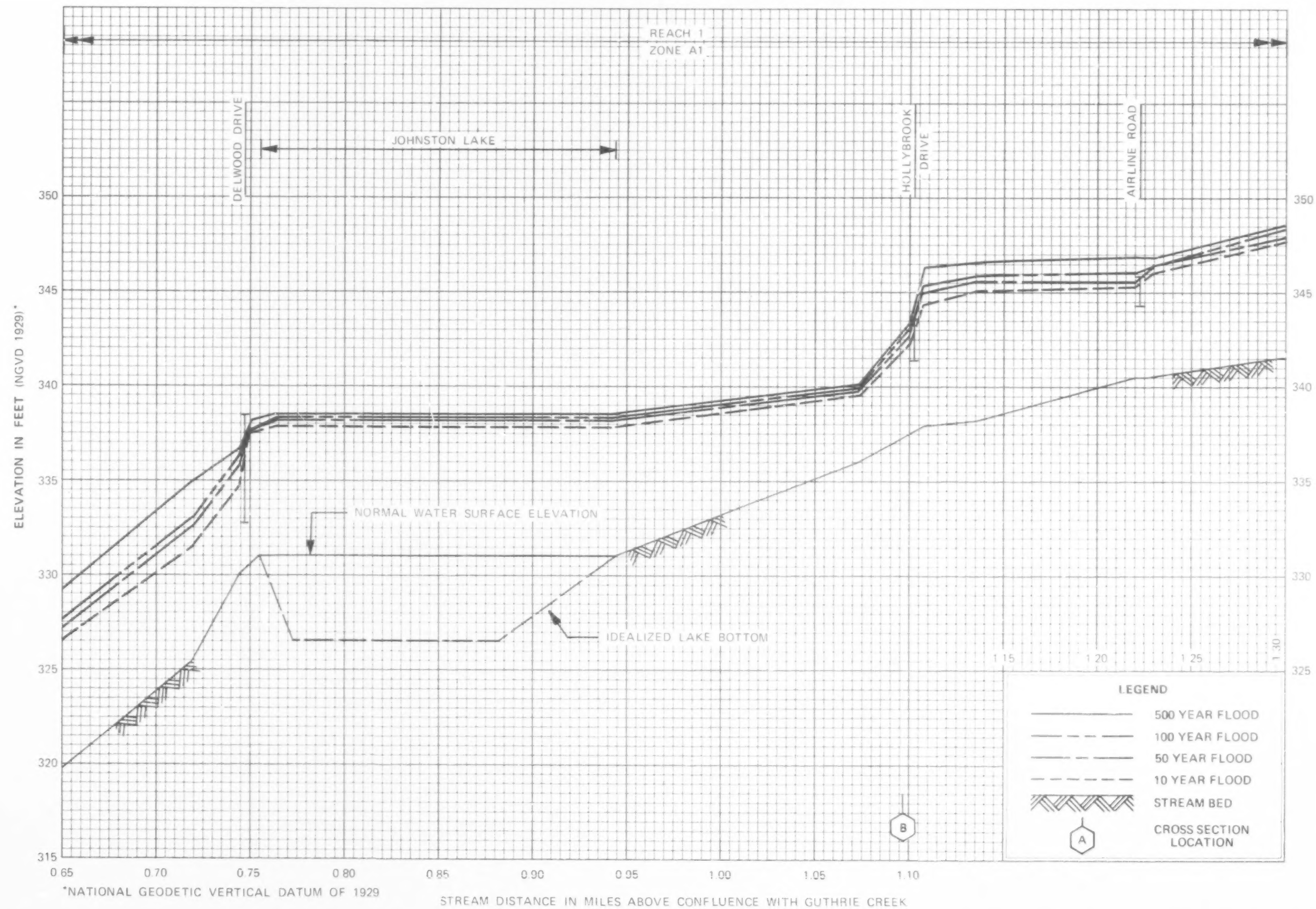
JOHNSTON CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

CITY OF LONGVIEW, TX
(GREGG AND HARRISON COS.)

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FLOOD PROFILES

JOHNSTON CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

CITY OF LONGVIEW, TX
(GREGG AND HARRISON COS.)

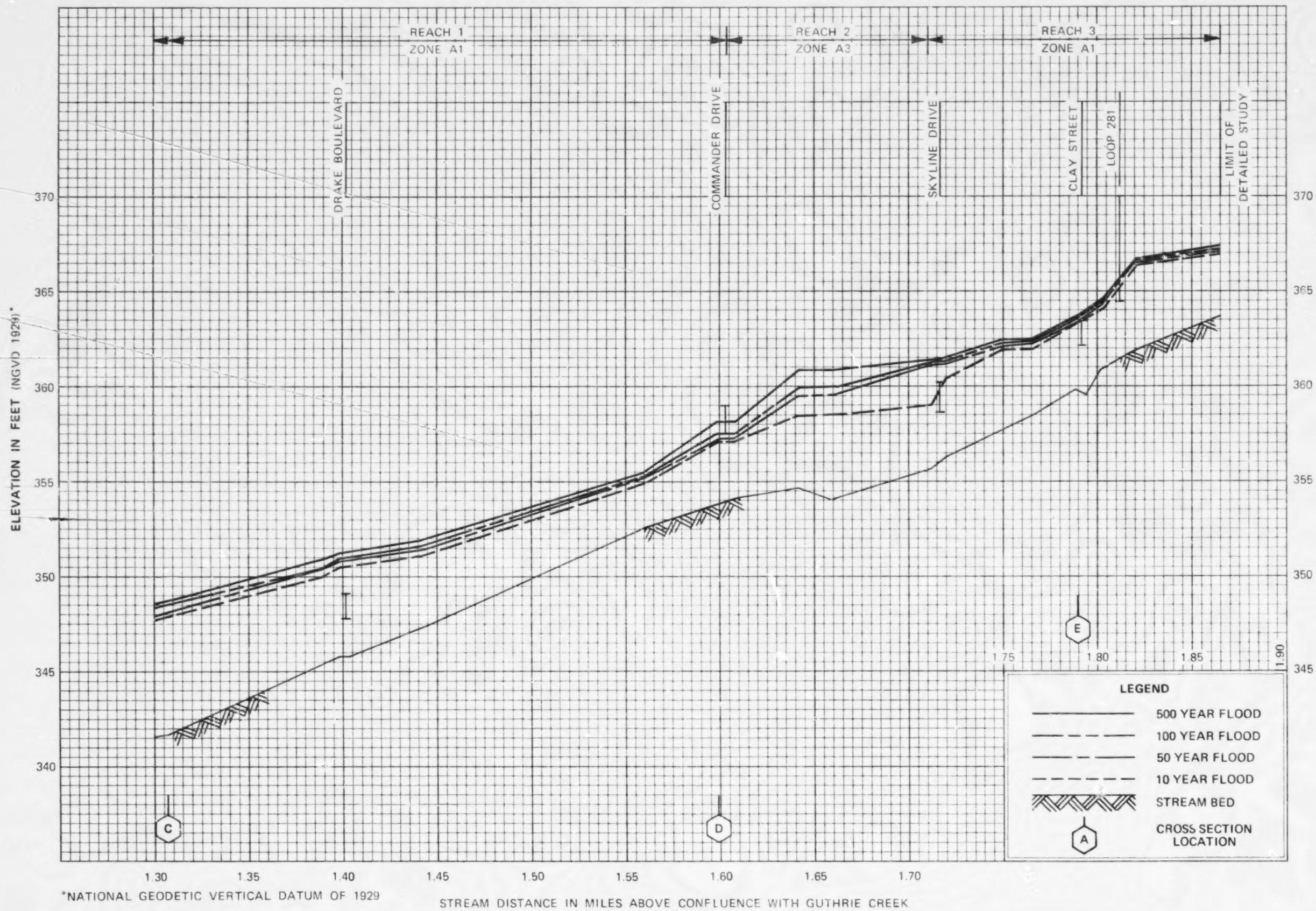
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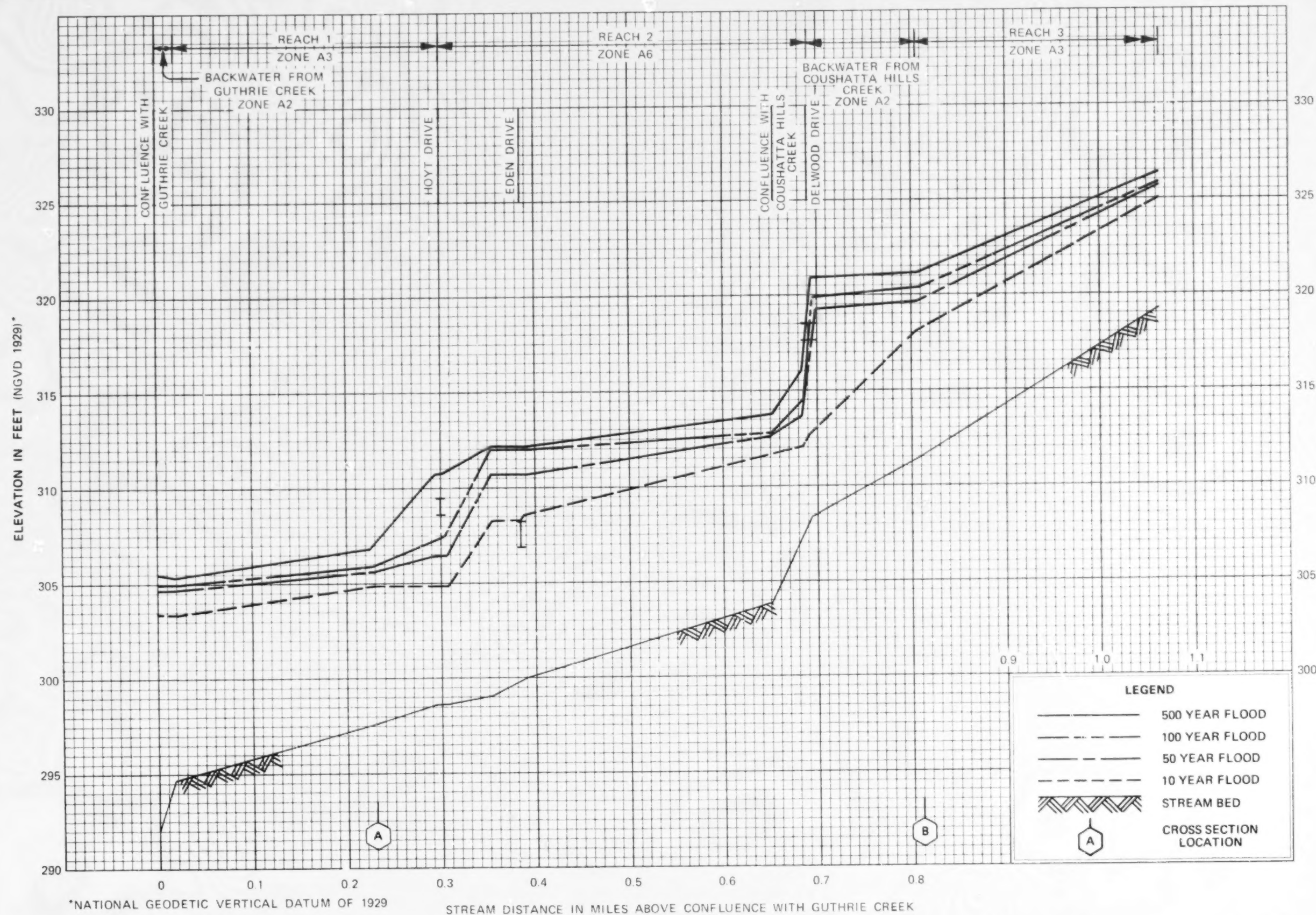
JOHNSTON CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

CITY OF LONGVIEW, TX
(GREGG AND HARRISON COS.)

21P

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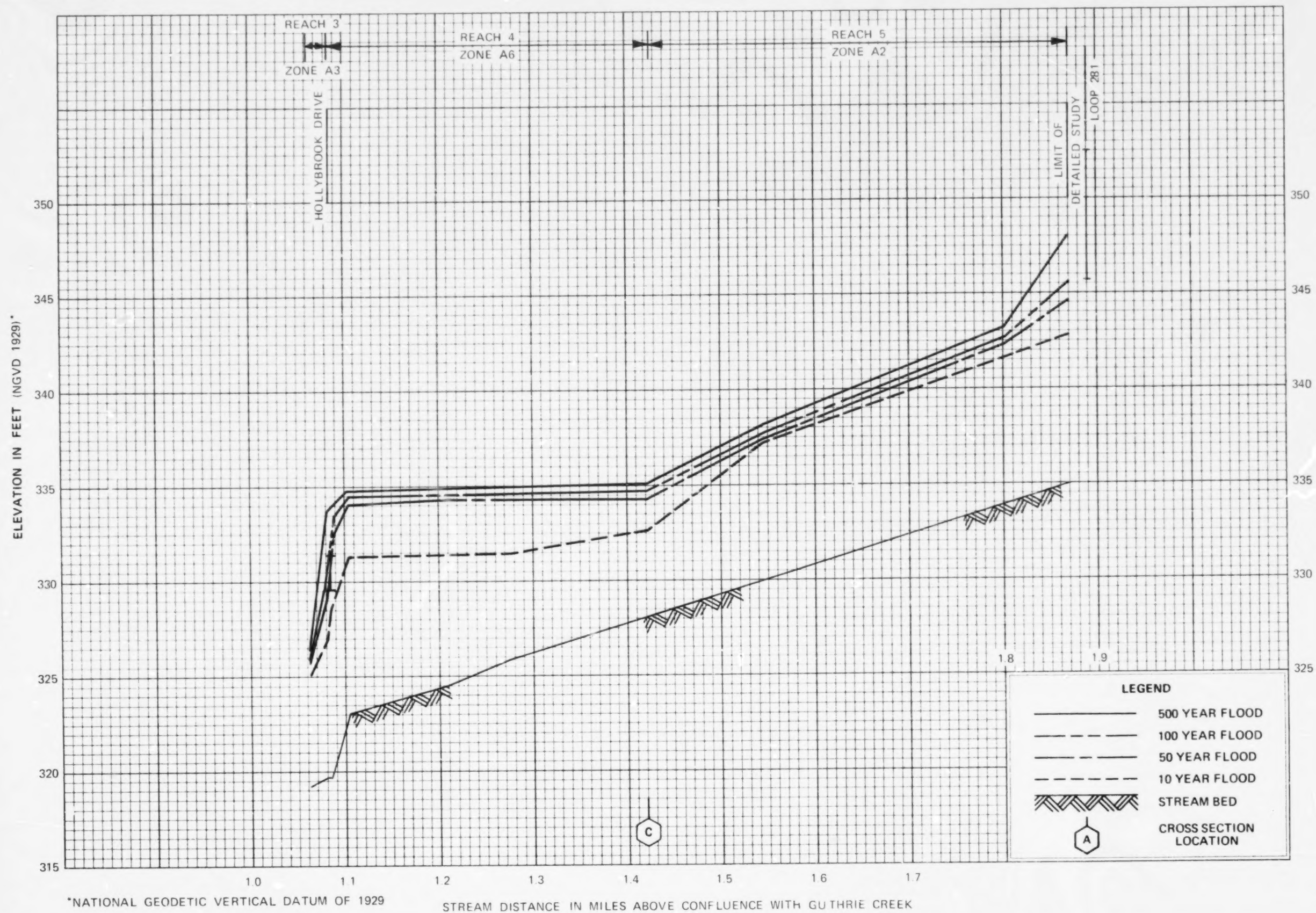


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OAKLAND CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

CITY OF LONGVIEW, TX
(GREGG AND HARRISON COS.)



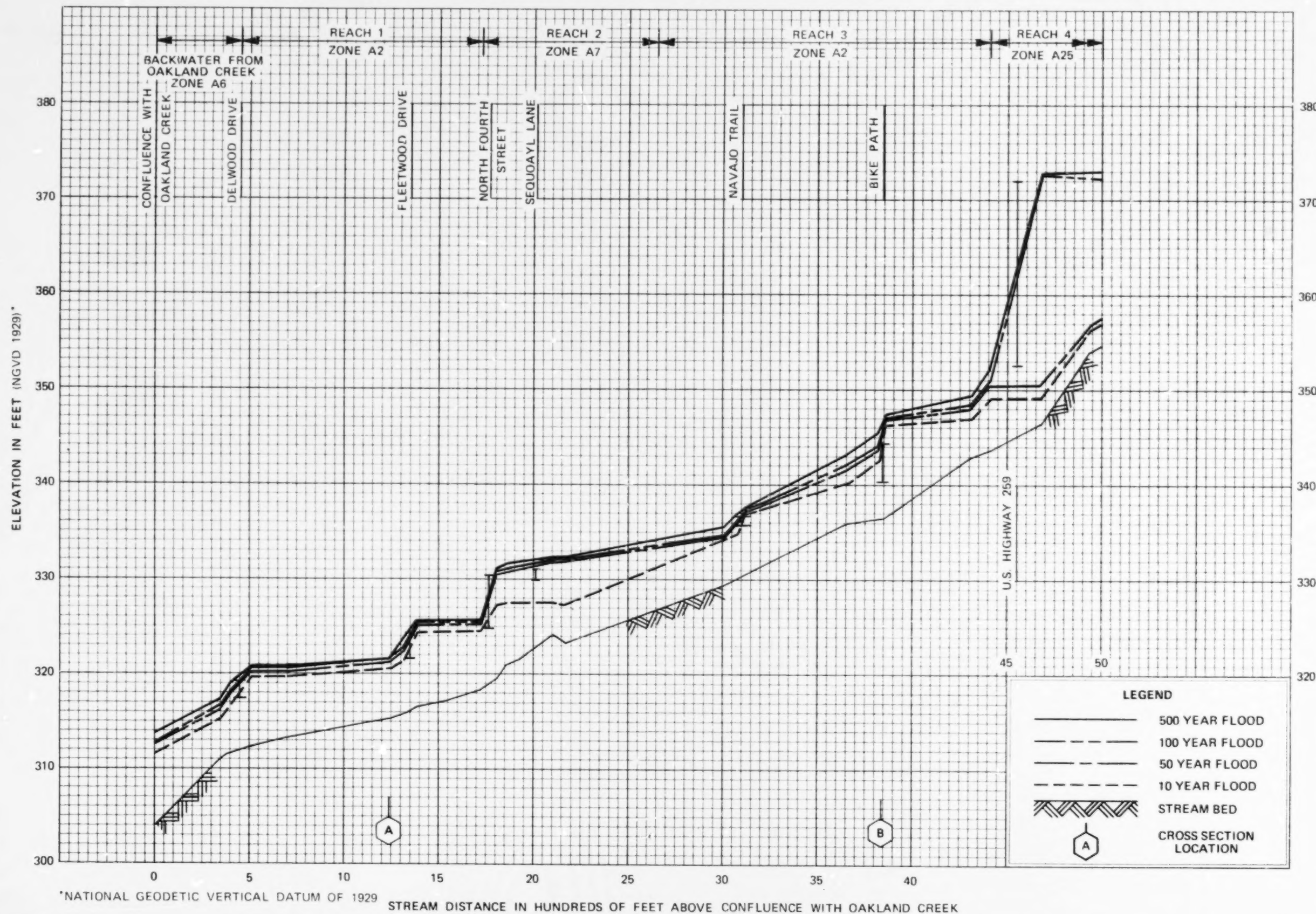
FEDERAL EMERGENCY MANAGEMENT AGENCY

CITY OF LONGVIEW, TX
(GREGG AND HARRISON COS.)

23P

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55



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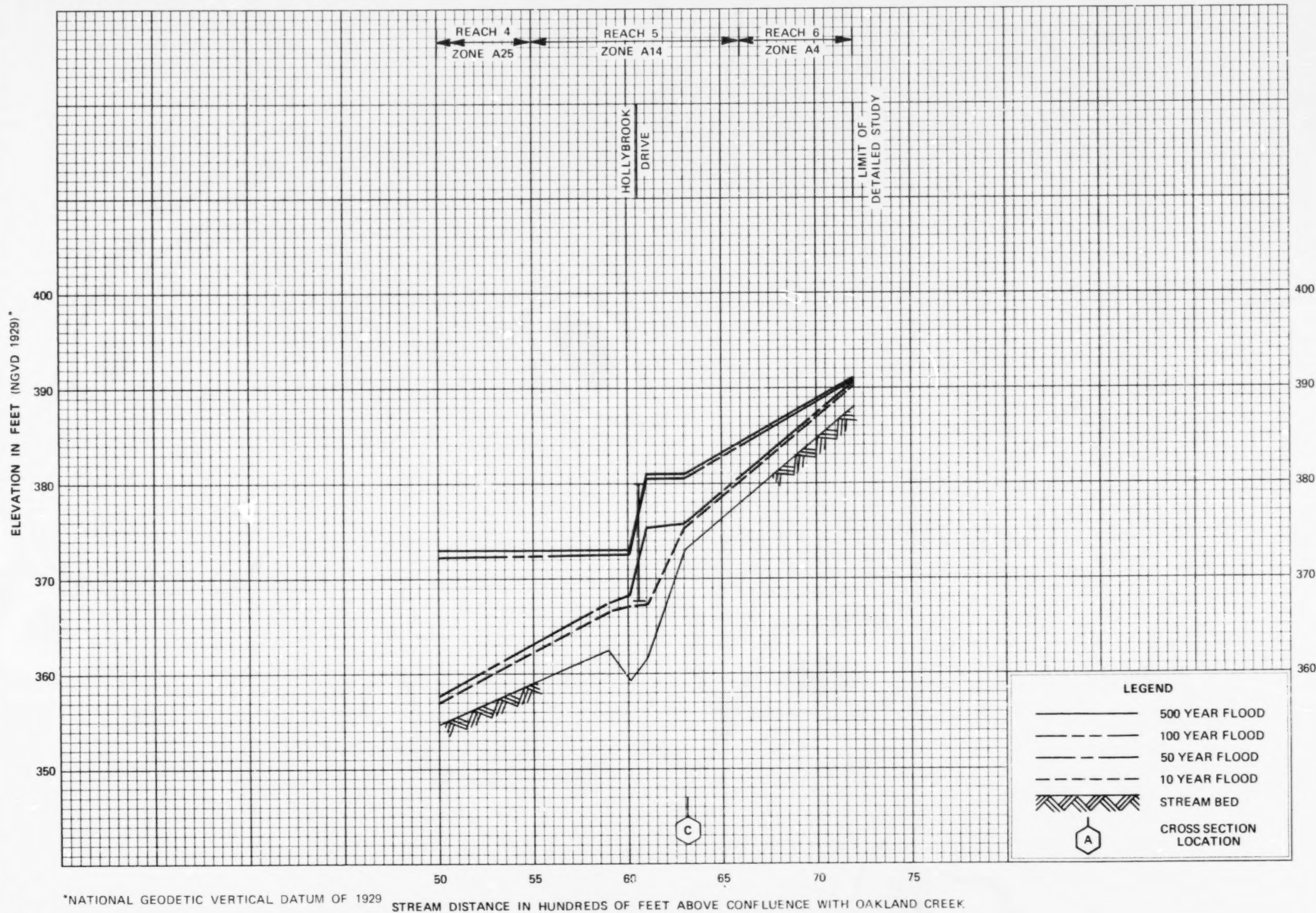
COUSHATTA HILLS CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

CITY OF LONGVIEW, TX
(GREGG AND HARRISON COS.)

24P

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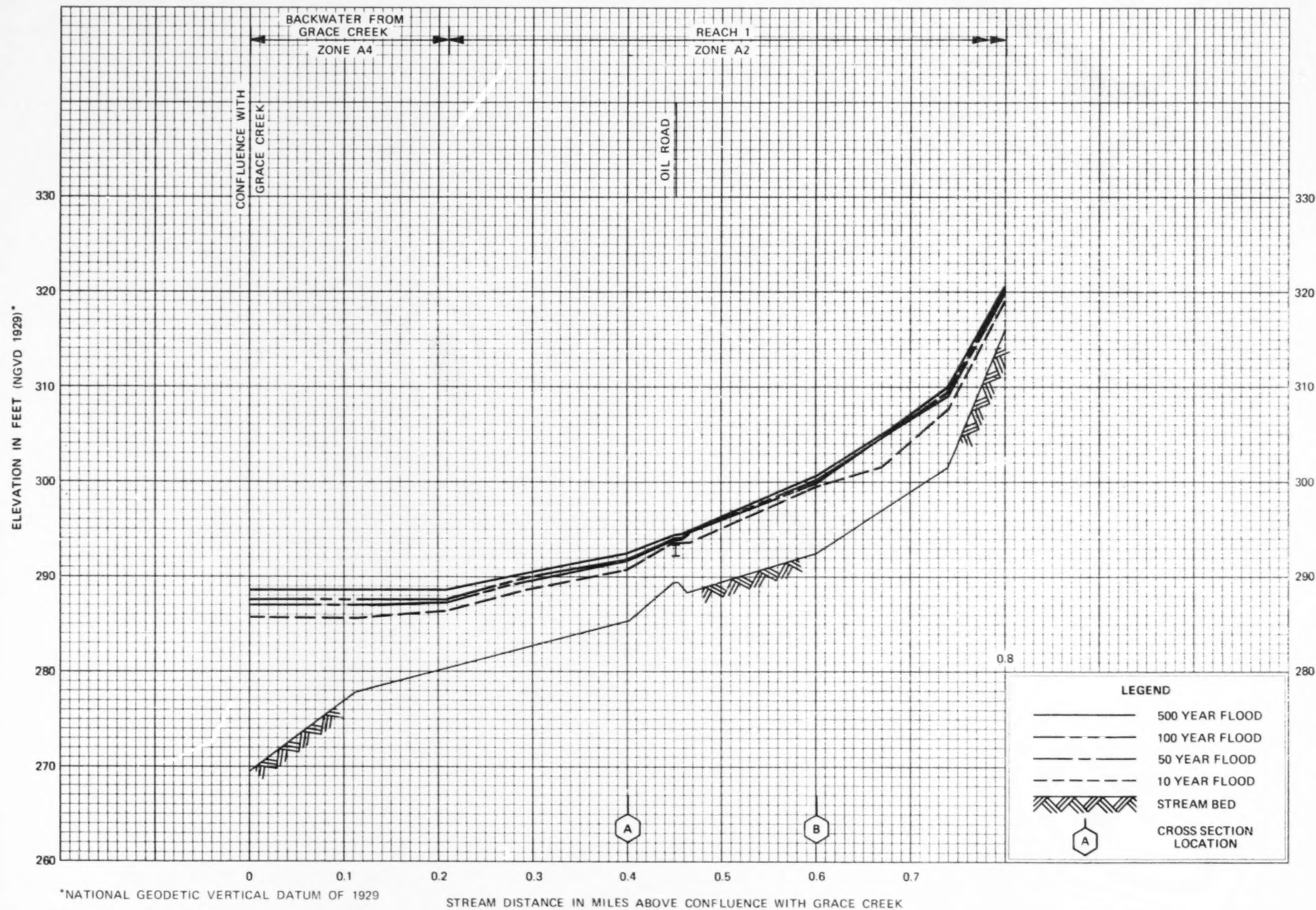
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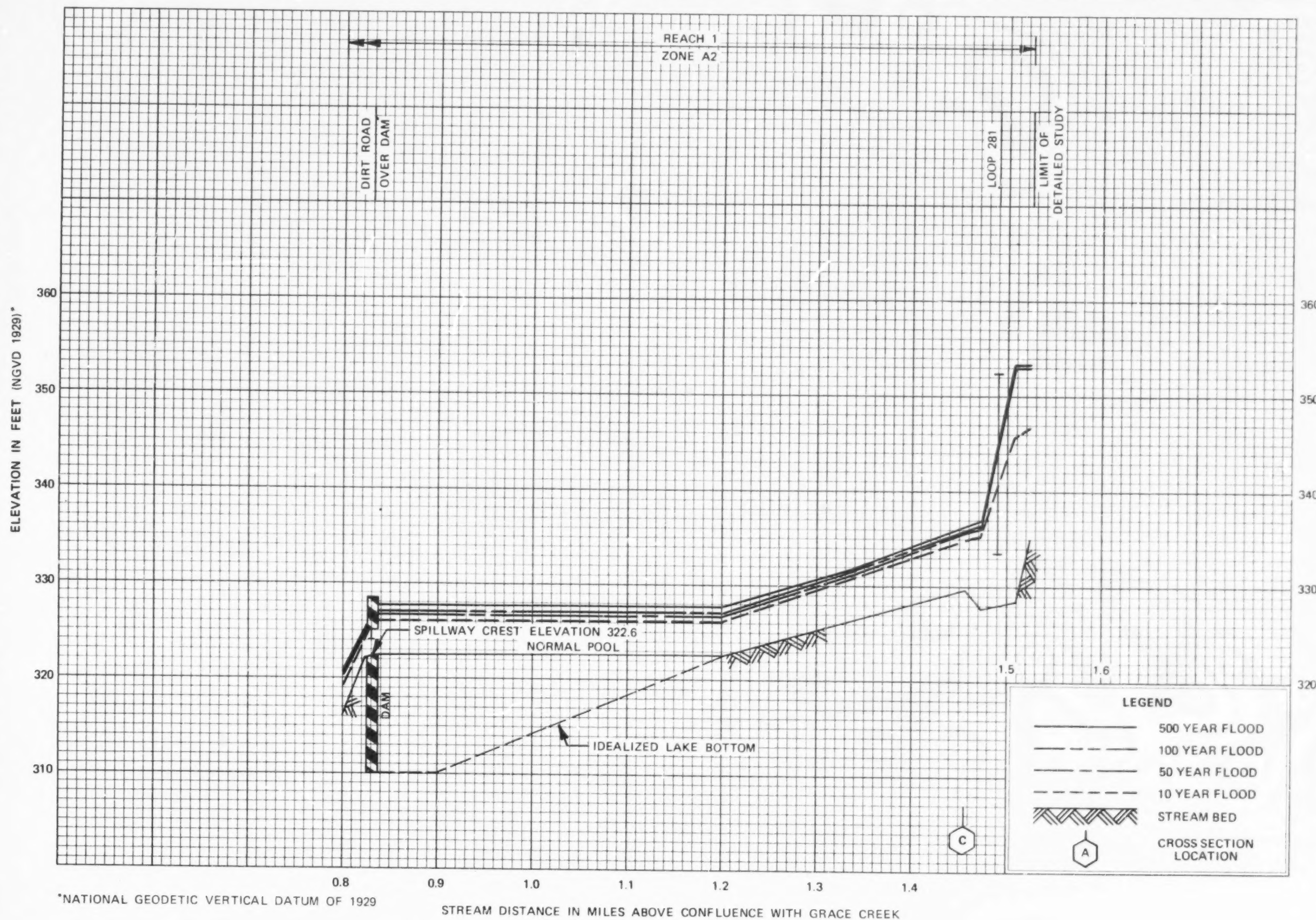
FEDERAL EMERGENCY MANAGEMENT AGENCY

CITY OF LONGVIEW, TX
(GREGG AND HARRISON COS.)

25P

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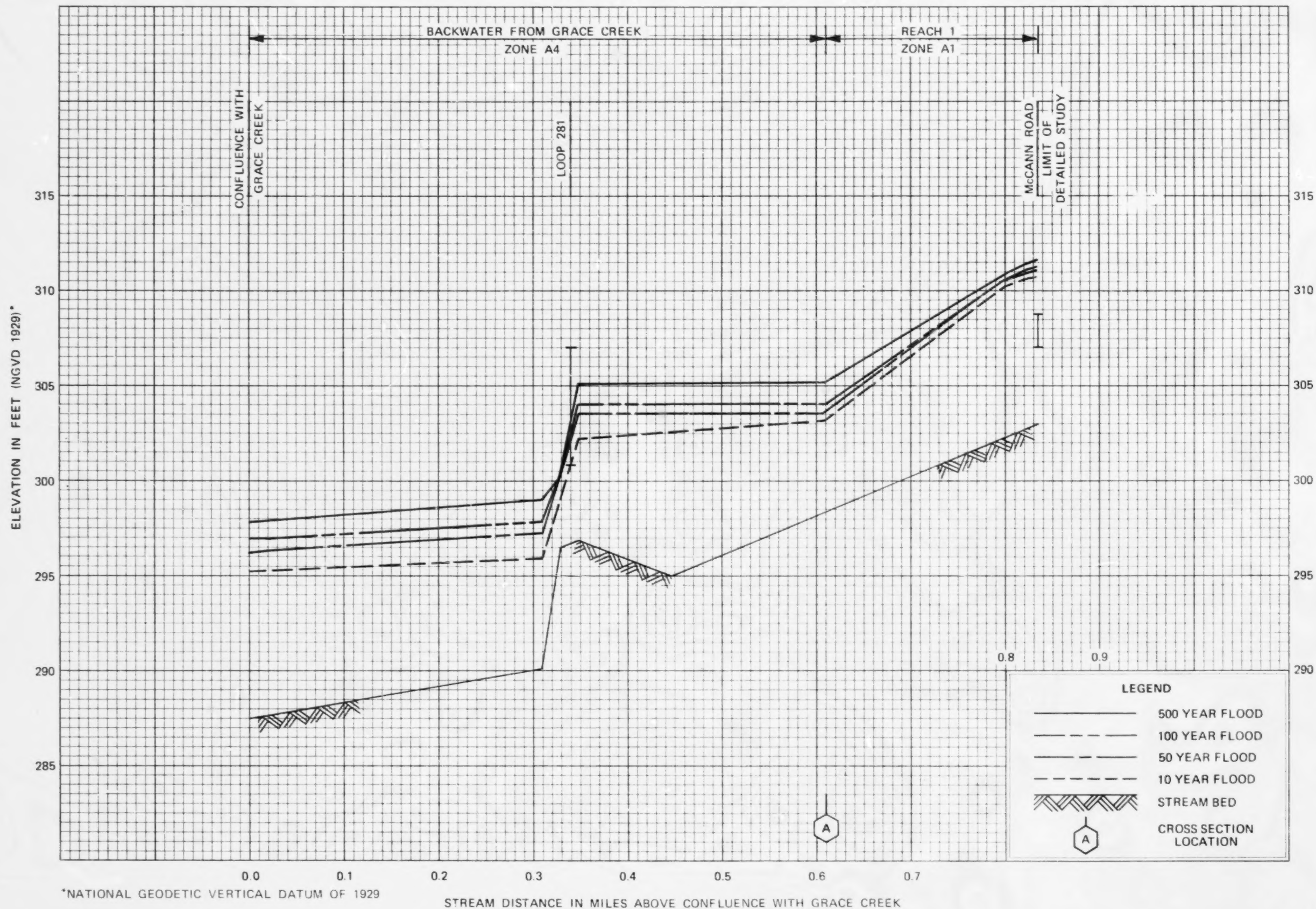
GILMER CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

CITY OF LONGVIEW, TX
(GREGG AND HARRISON COS.)

27P

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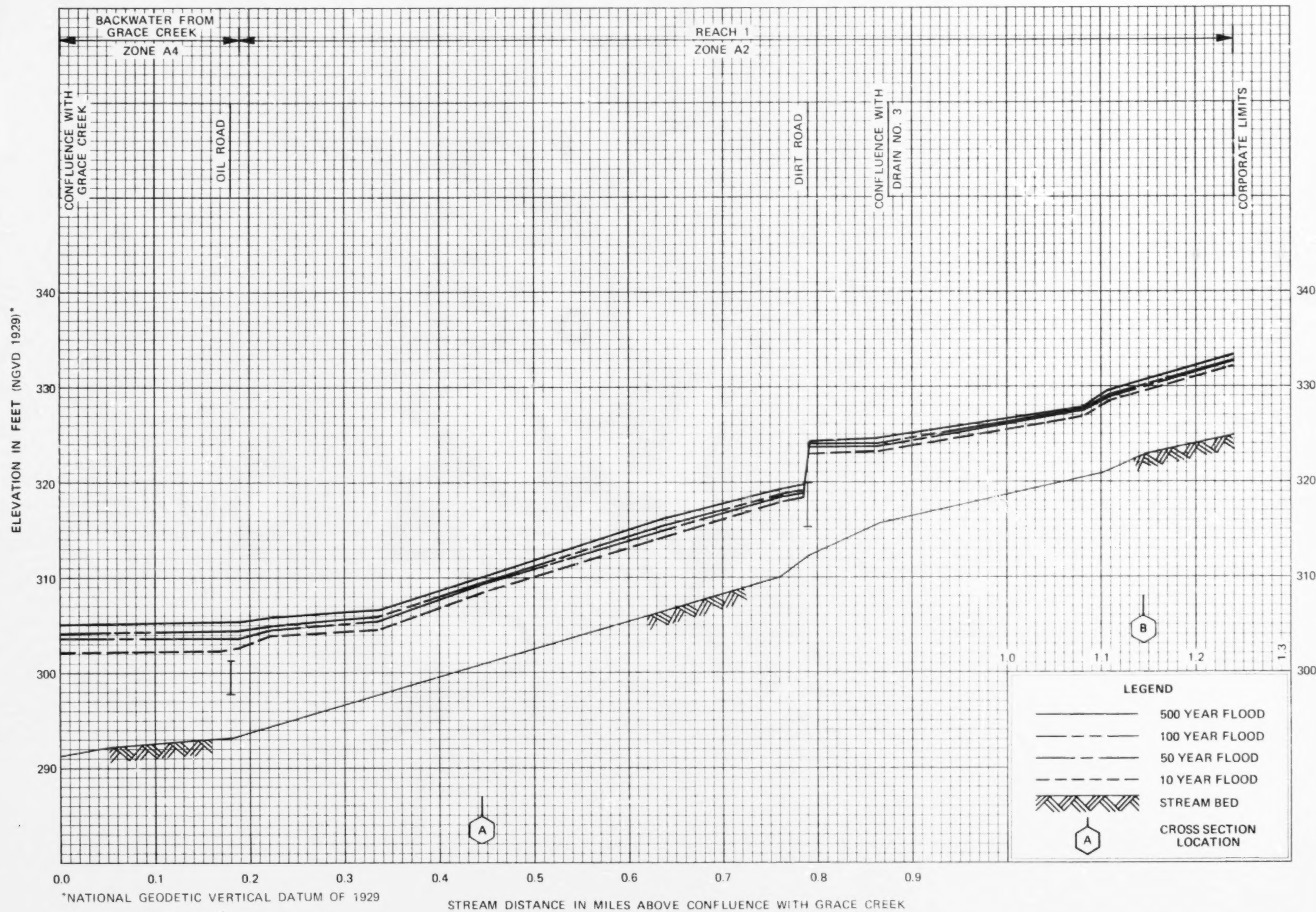
FLOOD PROFILES

DRAIN NO. 2

FEDERAL EMERGENCY MANAGEMENT AGENCY

CITY OF LONGVIEW, TX
(GREGG AND HARRISON COS.)

28P

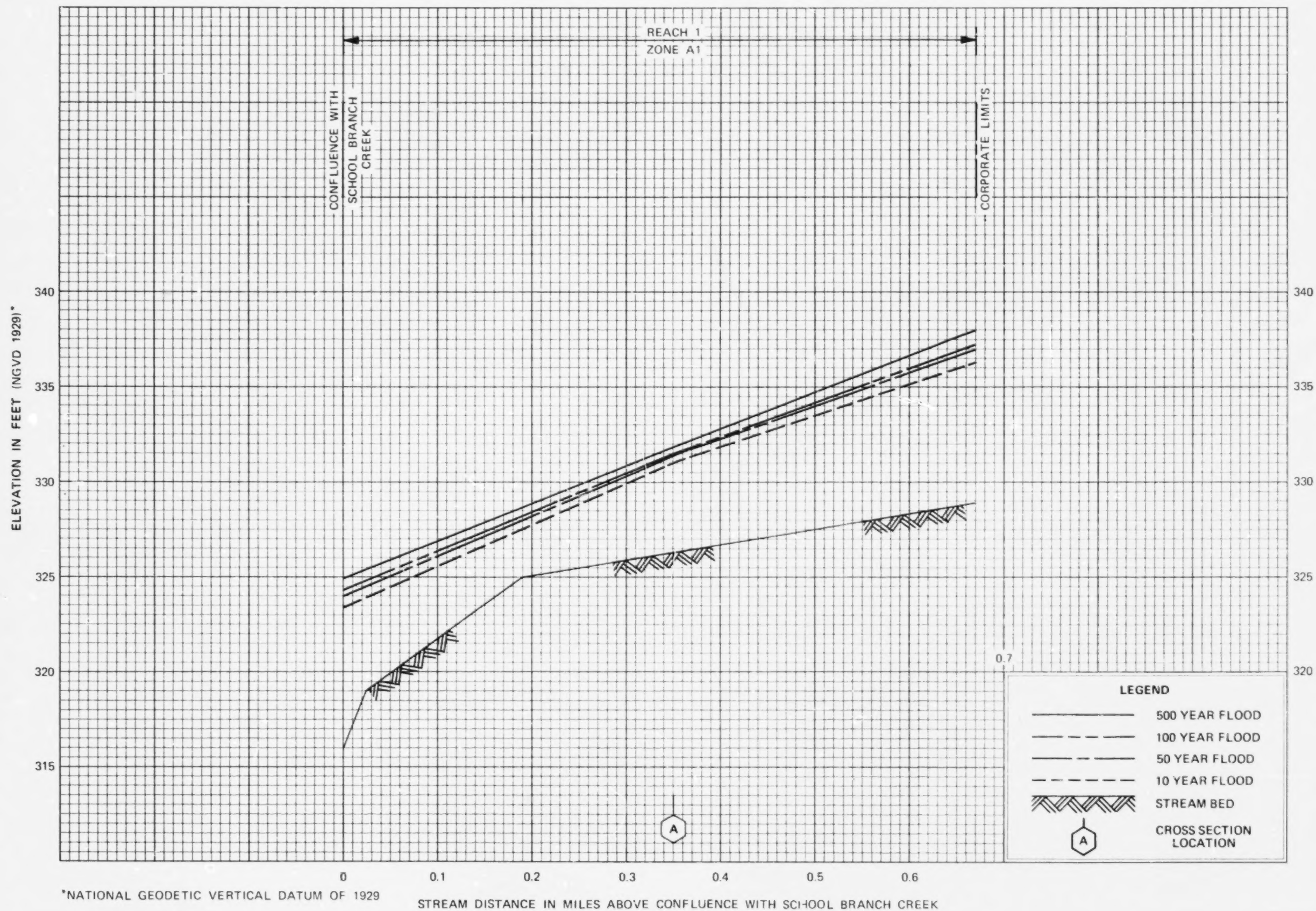


FLOOD PROFILES

SCHOOL BRANCH CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

CITY OF LONGVIEW, TX
(GREGG AND HARRISON COS.)



FLOOD PROFILES

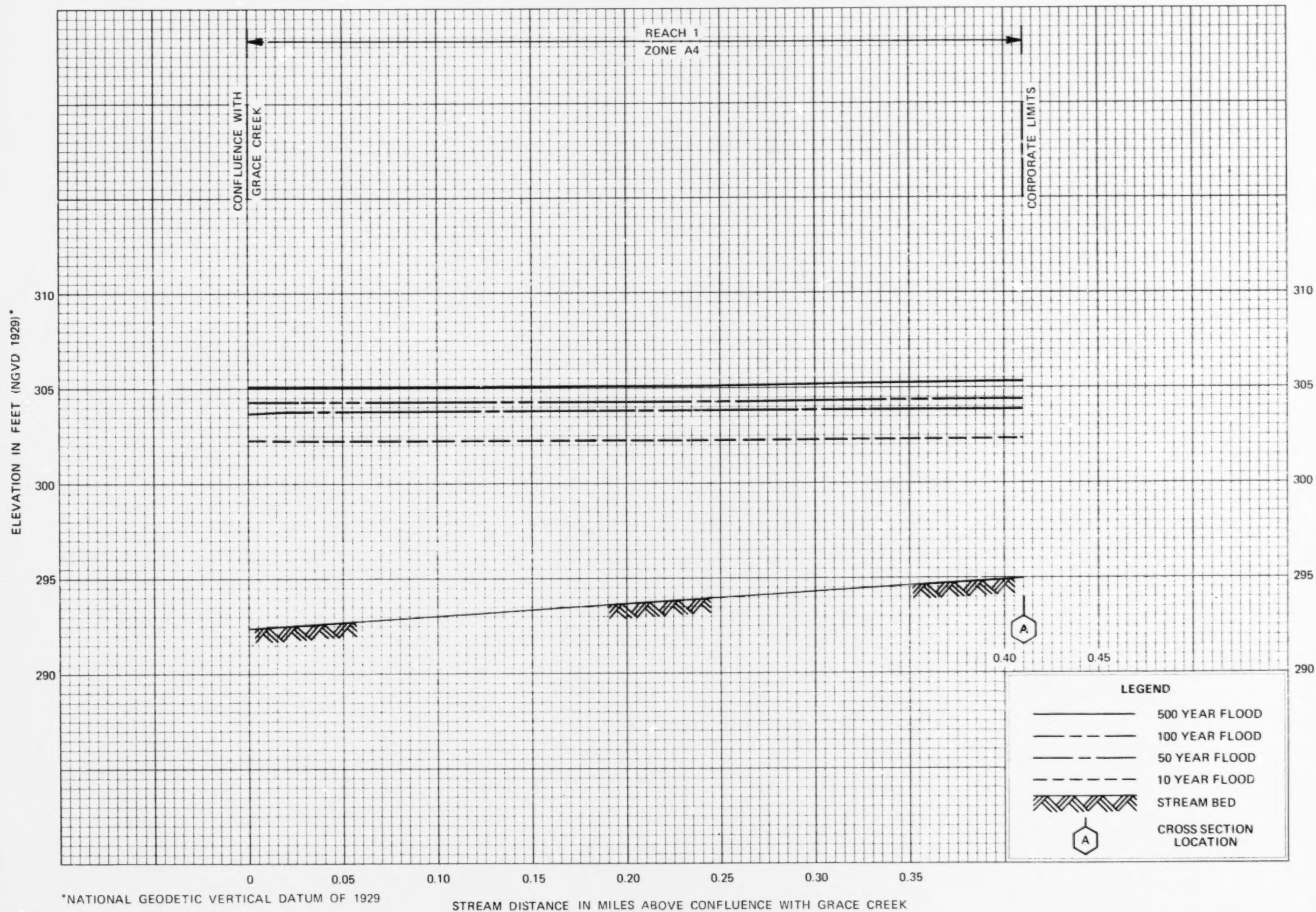
DRAIN NO. 3

FEDERAL EMERGENCY MANAGEMENT AGENCY

CITY OF LONGVIEW, TX
(GREGG AND HARRISON COS.)

30P

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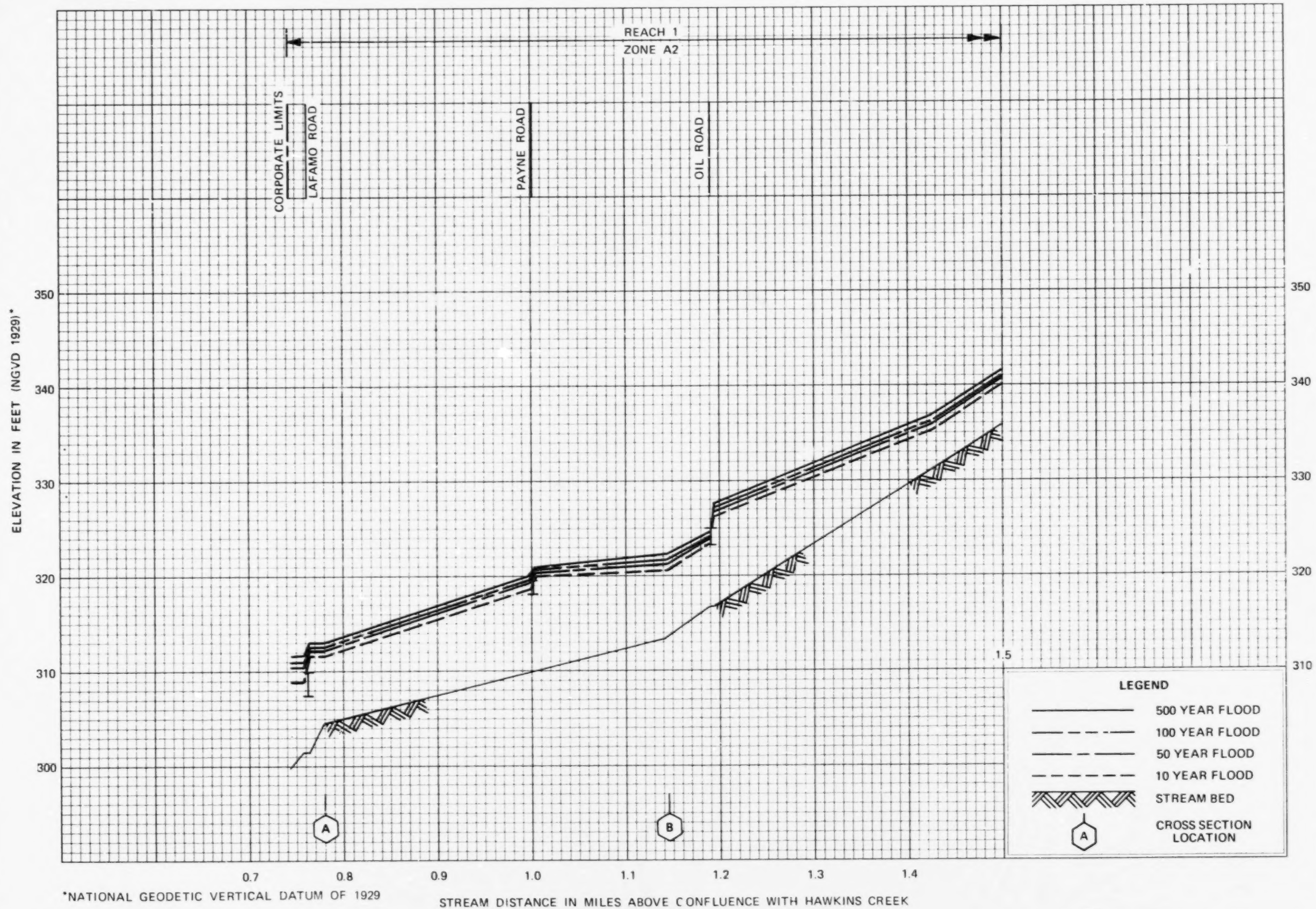
RAY CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

CITY OF LONGVIEW, TX
(GREGG AND HARRISON COS.)

31P

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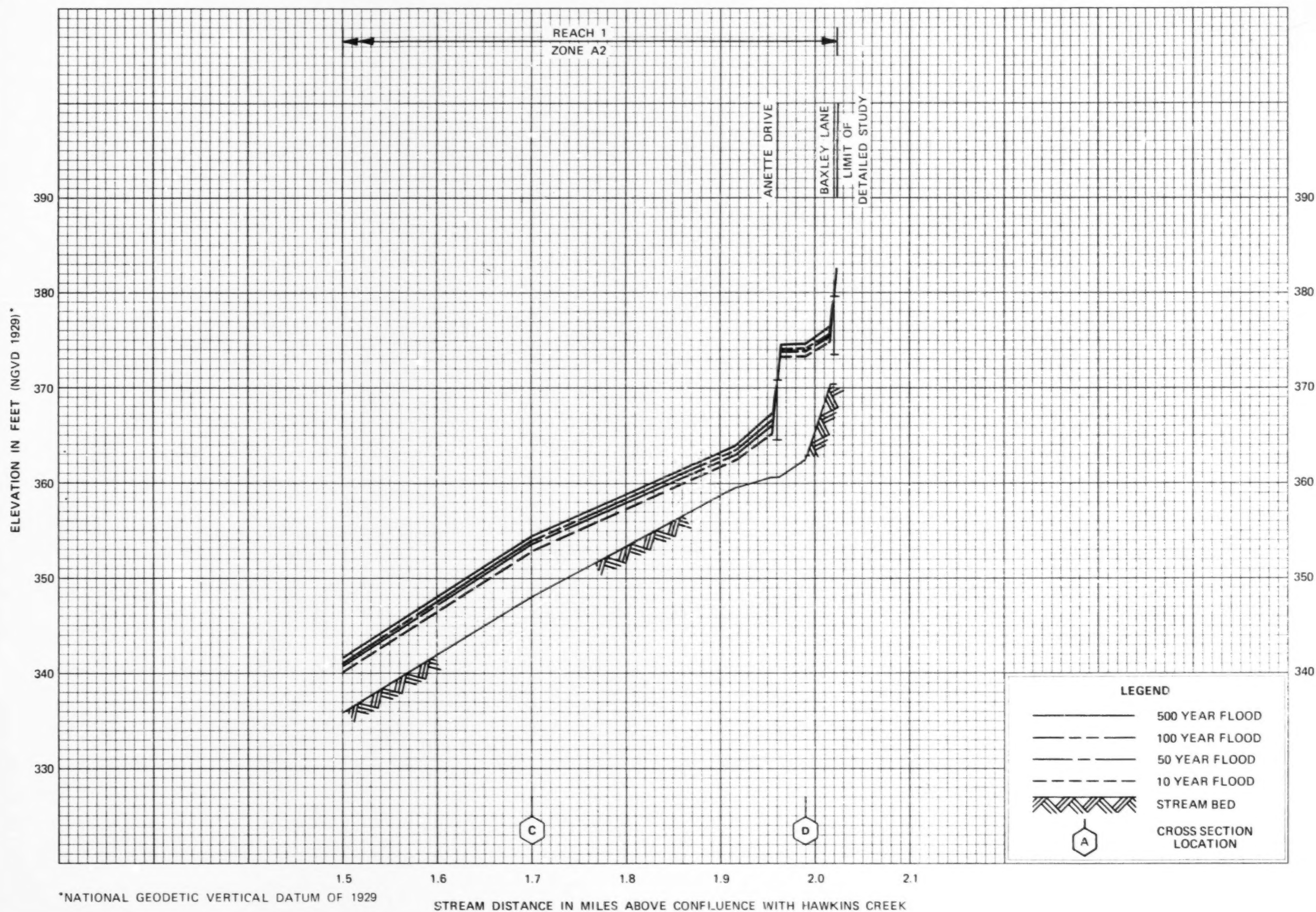
LAFAMO CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

CITY OF LONGVIEW, TX
(GREGG AND HARRISON COS.)

32P

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LAFAMO CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

CITY OF LONGVIEW, TX
(GREGG AND HARRISON COS.)

33P

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